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The Road Taken: Social Mobility in the Transition to Adulthood

DISSERTATION

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for the degree of

DOCTOR OF PHILOSOPHY

In Psychology and Social Behavior

By

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TABLE OF CONTENTS

	Page
LIST OF FIGURES	iv
LIST OF TABLES	vi
ACKNOWLEDGMENTS	ix
CURRICULUM VITAE	x
ABSTRACT OF THE DISSERTATION	xi
INTRODUCTION	1
Overview	1
Theoretical Context	2
Individual Agency	2
Developmental Ecology	10
Young Adult Agency in a Changing Developmental Ecology	15
Summary	25
CURRENT STUDY	26
Research Questions and Hypotheses	26
Research Question 1 and Hypotheses 1, 1a, 1b and 1c	27
Research Question 2 and Hypotheses 2a, 2b and 2c	28
Research Question 3 and Hypotheses 3a and 3b	31
Research Question 4 and Hypotheses 4a and 4b	32
Research Question 5 and Hypothesis 5	32
STUDY 1	34
Method	34
Participants and Procedure	34
Measures	35
Plan for Analysis	38
Results	42
Descriptive Analyses	42
Results for Research Question 1	48
Model Testing	49
Results for Research Question 2	49
Results for Research Question 3	61
Results for Research Question 4	70
Results for Research Question 5	80

STUDY 2 83
Method 83
Participants and Procedure 83
Measures 84
Plan for Analysis 88
Results 91
Descriptive Analyses 91
Results for Research Question 1 98
Model Testing 101
Results for Research Question 2 101
Results for Research Question 3 124
Results for Research Question 4 145
Results for Research Question 5 162

DISCUSSION 175
Overview and summary of results 175
Discussion of Research Questions 177
Research Question 1 177
Research Question 2 182
Research Question 3 184
Research Question 4 190
Research Question 5 194
Limitations 196
Future Directions 198
Conclusion 199

REFERENCES 201

APPENDIX A: Reverse Direction Multilevel Modeling Results 216

APPENDIX B: Expected Personal SES Multilevel Modeling Results 228

LIST OF FIGURES

		Page
Figure 1	Hypothetical Depiction of Canalizing Factors on Development	12
Figure 2	Conceptual Model for the Dissertation Research	27
Figure 3	Study 1 - Participants' Career-Related Goal Engagement: Predicted Margins for Time by Merit-Oriented Personal Agency Beliefs Interaction	69
Figure 4	Study 1 - Participants' Career-Related Goal Disengagement: Predicted Margins for Time by Luck-Oriented Personal Agency Beliefs Interaction	70
Figure 5	Study 1 - Participants' Privilege-Oriented Societal Beliefs: Predicted Margins for Time by Satisfaction with Career Goal Progress Interaction	82
Figure 6	Study 2 – Results for Research Question 2	112
Figure 7	Study 2 – Results for Research Question 3	125
Figure 8	Study 2 - Participants' Career-Related Compensatory Primary Control Strategies: Predicted Margins for Time by Connections-Oriented Personal Agency Beliefs Interaction	133
Figure 9	Study 2 - Results for Research Question 4	146
Figure 10	Study 2 - Participants' Merit-Oriented Societal Beliefs: Predicted Margins for Time by Career Goal Control Interaction	167
Figure 11	Study 2 - Participants' Merit-Oriented Societal Beliefs: Predicted Margins for Time by Present SES Interaction	168
Figure 12	Study 2 - Participants' Ability-Oriented Personal Agency Beliefs: Predicted Margins for Time by Career Goal Expectancy Interaction	169
Figure 13	Study 2 - Participants' Ability-Oriented Personal Agency Beliefs: Predicted Margins for Time by Career Goal Control Interaction	170
Figure 14	Study 2 - Participants' Ability-Oriented Personal Agency Beliefs: Predicted Margins for Time by Job Helps Attain Career Goals Interaction	171
Figure 15	Study 2 - Participants' Effort-Oriented Personal Agency Beliefs: Predicted Margins for Time by Career Goal Expectancy Interaction	172

Figure 16	Study 2 - Participants' Effort-Oriented Personal Agency Beliefs: Predicted Margins for Time by Job Helps Attain Career Goals Interaction	173
Figure 17	Study 2 - Participants' Luck-Oriented Personal Agency Beliefs: Predicted Margins for Time by Present SES Interaction	174
Figure 18	Theoretical model developed from the dissertation research	175
Figure 19	Study 2 - Observed Relationships between Participants' SES-Related Beliefs and Career-Related Motivational Strategies	187

LIST OF TABLES

		Page
Table 1	Study 1 Wave 1 means, standard deviations and correlations	43
Table 2	Study 1 Wave 2 means, standard deviations and correlations	44
Table 3	Study 1 Wave 3 means, standard deviations and correlations	45
Table 4	Study 1 Wave 4 means, standard deviations and correlations	46
Table 5	Study 1 within variable correlations across wave	47
Table 6	Study 1 Results of Multilevel Model Analyses Predicting Participants' Just World Beliefs	50
Table 7	Study 1 Results of Multilevel Model Analyses Predicting Participants' Merit-Oriented Societal Beliefs	53
Table 8	Study 1 Results of Multilevel Model Analyses Predicting Participants' Privilege-Oriented Societal Beliefs	55
Table 9	Study 1 Results of Multilevel Model Analyses Predicting Participants' Merit-Oriented Personal Agency Beliefs	58
Table 10	Study 1 Results of Multilevel Model Analyses Predicting Participants' Luck-Oriented Personal Agency Beliefs	60
Table 11	Study 1 Results of Multilevel Model Analyses Predicting Participants' Career-Related Goal Engagement Strategies	65
Table 12	Study 1 Results of Multilevel Model Analyses Predicting Participants' Career-Related Goal Disengagement Strategies	67
Table 13	Study 1 Results of Multilevel Model Analyses Predicting Participants' Career Goal Expectancy	74
Table 14	Study 1 Results of Multilevel Model Analyses Predicting Participants' Career Goal Value	76
Table 15	Study 1 Results of Multilevel Model Analyses Predicting Participants' Satisfaction with Career Goal Progress	78
Table 16	Study 1 Results of Multilevel Model Analyses Predicting Hypothesized Feedback Loops	82

Table 17	Study 2 Wave 1 means, standard deviations and correlations	93
Table 18	Study 2 Wave 2 means, standard deviations and correlations	94
Table 19	Study 2 Wave 3 means, standard deviations and correlations	95
Table 20	Study 2 Wave 4 means, standard deviations and correlations	96
Table 21	Study 2 within variable correlations across wave	97
Table 22	Study 2 Results of Multilevel Model Analyses Predicting Participants' Just World Beliefs	102
Table 23	Study 2 Results of Multilevel Model Analyses Predicting Participants' Merit-Oriented Societal Beliefs	106
Table 24	Study 2 Results of Multilevel Model Analyses Predicting Participants' Privilege-Oriented Societal Beliefs	108
Table 25	Study 2 Results of Multilevel Model Analyses Predicting Participants' Connections-Oriented Societal Beliefs	109
Table 26	Study 2 Results of Multilevel Model Analyses Predicting Participants' Ability-Oriented Personal Agency Beliefs	113
Table 27	Study 2 Results of Multilevel Model Analyses Predicting Participants' Effort-Oriented Personal Agency Beliefs	116
Table 28	Study 2 Results of Multilevel Model Analyses Predicting Participants' Luck-Oriented Personal Agency Beliefs	119
Table 29	Study 2 Results of Multilevel Model Analyses Predicting Participants' Connections-Oriented Personal Agency Beliefs	122
Table 30	Study 2 Results of Multilevel Model Analyses Predicting Participants' Career-Related Selective Primary Control Strategies	127
Table 31	Study 2 Results of Multilevel Model Analyses Predicting Participants' Career-Related Compensatory Primary Control Strategies	130
Table 32	Study 2 Results of Multilevel Model Analyses Predicting Participants' Career-Related Selective Secondary Control Strategies	135
Table 33	Study 2 Results of Multilevel Model Analyses Predicting Participants' Career-Related Compensatory Secondary Control-Disengagement Strategies	139

Table 34	Study 2 Results of Multilevel Model Analyses Predicting Participants' Career-Related Compensatory Secondary Control-Reengagement Strategies	142
Table 35	Study 2 Results of Multilevel Model Analyses Predicting Participants' Career Goal Expectancy	148
Table 36	Study 2 Results of Multilevel Model Analyses Predicting Participants' Career Goal Value	152
Table 37	Study 2 Results of Multilevel Model Analyses Predicting Participants' Career Goal Control	156
Table 38	Study 2 Results of Multilevel Model Analyses Predicting Participants' Satisfaction with Career Goal Progress	160
Table 39	Study 2 Results of Multilevel Model Analyses Predicting Hypothesized Feedback Loops	166

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ABSTRACT OF THE DISSERTATION

The Road Taken: Social Mobility in the Transition to Adulthood

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The dissertation builds upon motivational and developmental theory regarding how societal and individual agency factors are associated with developmental outcomes in young adulthood. In particular, the dissertation increases our understanding of how young adults' beliefs systems are related with their career-related motivational strategies and progress or setbacks toward attaining their career goals through the construction of a theoretically grounded and empirically validated model. This model is developed through an examination of the following research questions. (1) How do young adults believe that socioeconomic status is attained in America by people in general, and for themselves personally? (2) How are young adults' beliefs about the fairness of the world related to their beliefs about how socioeconomic status is attained by other people in American society, and how are these beliefs subsequently related with the factors they identify as causal to their own socioeconomic status attainment? (3) How do young adults' beliefs about socioeconomic status attainment relate to their engagement with career-related goals? (4) How are young adults' career-related motivational strategies related to career

development? and (5) How does an individual's career development influence her/his subsequent beliefs about socioeconomic status attainment?

Data are drawn from two longitudinal studies of young adults during the university to post-university transition. Study 1 includes 140 participants, roughly half of whom are juniors and half seniors at the first assessment. Participants are assessed approximately every six months, for a total of four assessment points. Study 2 includes 282 participants who had just graduated from university at the first assessment. Participants are assessed roughly every two and a half months, for a total of four assessment points.

The dissertation findings highlight the congruency of individuals' beliefs with their motivational strategies and career-related development. In addition, the results emphasize the adaptive flexibility of young adults' belief-motivation-development system, which allows individuals to engage with the pursuit of opportunity-congruent career goals and disengage when these goals appear unattainable. These findings build upon motivational and developmental theory, and provide an empirically validated model through which future research can further examine how young adults navigate the school-to-work transition.

INTRODUCTION

What is the American Dream? For today's young adults, the answer may not be so simple. Rising inequality has muted young adults' prospects for upward social mobility, while globalization and the recent recession have left young adults facing an unstable and uncertain job market. Collectively, these factors may challenge young adults' endorsement and pursuit of career goals, while simultaneously placing increased pressure on individual agency to attain these goal pursuits. Choices and actions during the transition to adulthood have lifelong implications, yet the impact of the recent recession on young adults' career goal pursuits remains an understudied area of inquiry.

The dissertation addresses this need for further research through the conduction and analysis of two longitudinal studies that examine the psychological processes involved with career goal pursuit and expectations for socioeconomic status attainment across the university to post-university transition. More specifically, the purpose of the research is to examine the role that young adults' beliefs about socioeconomic status attainment play in their motivational commitment to career-related goals, the long-term effects of motivational commitment to these goals, and how young adults' beliefs about socioeconomic status attainment change in response to progress or setbacks in their career goal pursuits. Within this framework, the study assesses the following research questions. (1) How do young adults believe that socioeconomic status is attained in America by people in general, and for themselves personally? (2) How are young adults' beliefs about the fairness of the world related to their beliefs about how socioeconomic status is attained by other people in American society, and how are these beliefs subsequently related with the factors they identify as causal to their own socioeconomic status attainment? (3) How do young adults' beliefs about socioeconomic status attainment relate to their engagement

with career-related goals? (4) How are young adults' career-related motivational strategies related to career development? and (5) How does an individual's career development influence her/his subsequent beliefs about socioeconomic status attainment?

Theoretical Context

The theoretical context that follows is grouped into three sections. The first section discusses individual agency, with particular attention given to individual's motivational self-regulatory strategies. The second section discusses how individuals' agency relates to their developmental ecology, in turn making individuals both the "products" and "producers" of their own development (Lerner & Busch-Rossnagel, 1981). The third section discusses how young adults' agency and changes in their developmental ecology influence their career development and socioeconomic status attainment across the transition to adulthood.

Individual Agency

A central feature of lifespan developmental psychology is the individual as actor, or agent. An individual's capacity to act constitutes individual agency at its most basic level. At a more detailed level, individual agency includes the thoughts, actions, self-reflective and self-regulatory strategies that collectively allow individuals to actively contribute to their own development (Brandstädter & Lerner, 1999; Bandura, 2001; Emirbayer & Mische, 1998; Heckhausen, 1999; Hitlin & Elder Jr., 2007; Lerner & Busch-Rossnagel, 1981). In other words, individual agency includes an individual's active attempts to regulate her or his own development.

The integration of individual agency into models of human development has increased over the past half century in response to previously prevailing developmental theory that dichotomized developmental influences into nature and nurture factors (Lerner, 2003). These

more integrated models of lifespan development emphasize the role of overlapping systems of influence on individuals' development across the lifespan, including biological (nature), ecological (nurture), and individual agency factors (Baltes, 1987, 1997; Brandstädter & Lerner, 1999; Bronfenbrenner, 1979; Elder, 1998: Ford & Lerner, 1992; Heckhausen, Wrosch & Schulz, 2010; Lerner & Busch-Rossnagel, 1981). In addition to the integration of individual agency into models of development, modern developmental theory has incorporated lifespan and historical-context perspectives. The lifespan perspective challenges previously held conceptions of development ending at adolescence, instead arguing for a comprehensive understanding of continuity and change across an individual's lifespan (Baltes, 1987, 1997). Similarly, the incorporation of historical context into models of human development underscores the influence of time and place in shaping developmental outcomes (Elder, 1998).

The incorporation of individual agency, lifespan development, and historical context perspectives has allowed new theories of human development to emerge. A prominent lifespan development theory that has helped transition the field toward this integrated perspective is the Selective Optimization with Compensation model (SOC) (Baltes, 1987, 1997). The SOC model provides a framework for understanding how an individual's agency allows an individual to influence her or his own development. In this model, individual agency is composed of strategies involved with goal selection, investment of time and energy toward goal attainment, and strategies to compensate for constraints impeding goal attainment. These strategies not only change in response to the environment and an individual's maturation and biological aging, but also collectively allow an individual to enact change in her or his environment. Accordingly, individuals become both the "products" and "producers" of their own development (Lerner & Busch-Rossnagel, 1981).

For example consider Kobe Bryant, a professional basketball player for the Los Angeles Lakers. Kobe selected basketball as an early goal to pursue, and then invested all his time and energy toward becoming a great basketball player. However, as he continues to play, age is beginning to take a toll on his athletic ability and his body's ability to resist and recover from injury. To compensate for this, Kobe has modified the way he plays the game (e.g., shooting more outside jump-shots instead of closer to the basket where he would risk more contact and potential injury), and sought out high-tech and high-price medical treatment for the numerous injuries he has experienced. Thus, selecting basketball at an early age, selectively investing his time and energy into becoming a basketball player, and compensating for age-related physical decline has allowed Kobe to actively influence his own development.

Paralleling lifespan developmental theories, action theories also outline the role that motivational strategies play in allowing individuals to influence their own development. These action theories acknowledge the reciprocal relationship between an individual's actions and her or his environment; however, action theories view an individual's actions and intentions as the primary driving force behind development (Lerner, 2003). According to action theories, it is through experiencing the consequences of actions that individuals gain an understanding of themselves and of their environment. In turn, the self-reflective and self-regulatory strategies that develop in response to these experiences allow individuals to intentionally direct their development across the lifespan (Brandstädter & Lerner, 1999). Thus, individual agency develops through action-consequence experiences, and is directed toward aligning the present reality with an intended future reality (Carver & Scheier, 1982).

Combining action and lifespan development theories, the Motivational Theory of Life-Span Development (MTLD) provides a framework for understanding how individual agency

produces developmental outcomes (Heckhausen, Wrosch & Schulz, 2010). In addition to specifying the motivational strategies involved with choosing, pursuing, and disengaging from a goal, the MTLD describes how individuals regulate their motivational strategies, in turn allowing individuals to actively influence their own development across the lifespan. According to the MTLD, the fuel for individual agency is an individual's desire to control their environment in order to facilitate the attainment of goal pursuits (primary control striving). Evidence for the universality and adaptability of primary control striving, as well as its primacy in lifespan development comes from two main sources. First, primary control striving is present in early infants and across species (DeCasper & Carstens, 1981; Watson & Ramey, 1972; White, 1959), as evidenced by their preference for engaging in activities that produce responses contingent upon their own actions. Second, while individuals' capacity to influence their environment (primary control capacity) rises through midlife and then declines in old age, individuals' primary control striving remains high and stable across their lifespan (Heckhausen, 1999). The universality and lifespan prominence of primary control striving serves as the basis for the MTLD contention that adaptive lifespan development involves individuals' coordinated attempts to maximize their capacity to control their environment (primary control capacity) across the lifespan.

Additional motivational theory addresses how individuals regulate their attempts to control their environment, and in turn seek to optimize their primary control capacity and lifespan development. In particular, the Rubicon model of action phases helps to understand this question by outlining the sequence-specific processes involved in individuals' attempts to control their environment (Heckhausen, 1991). To begin, individuals need to select a goal to pursue (pre-decisional phase). Goals can be explicit or implicit, but refer to desired future states (Heckhausen

& Heckhausen, 2008). During explicit goal selection, individuals enter into a deliberative mindset wherein they attempt to take a realistic assessment of their opportunities for and capacity to control the attainment of a pursued goal, as well as the consequences associated with pursuing or eventually attaining the goal (Gollwitzer, Heckhausen & Stellar, 1990; Gollwitzer & Kinney, 1989; Heckhausen & Gollwitzer, 1987; Heckhausen, 1999; Heckhausen & Heckhausen, 2008). The deliberative mindset is relatively unbiased, allowing individuals to accurately weigh the pros and cons of pursuing a goal.

Once individuals select a goal, they cross the "decisional Rubicon" and enter into an implemental mindset wherein they begin to selectively invest their motivational resources toward attaining the chosen goal (Heckhausen, 1991). First, this transition into goal engagement involves a further assessment of personal capacities and available opportunities in order to develop a plan of action. However, once individuals have crossed the decisional Rubicon and are in an implemental mindset their decisions become biased due to enhanced perceptions of their opportunity and personal control over attaining the pursued goal (Gollwitzer, Heckhausen & Stellar, 1990; Gollwitzer & Kinney, 1989; Heckhausen & Gollwitzer, 1987; Heckhausen, 1999; Heckhausen & Heckhausen, 2008).

At a most basic level, individuals' goal pursuit is considered adaptive to the extent that it produces long-term enhancement of primary control capacity across multiple domains life. Accordingly, the MTLD (Heckhausen, Wrosch & Schulz, 2010) outlines three criteria that can be used to determine the adaptiveness of an individual's goal pursuit. The first criterion is that goal pursuit should be congruent with an individual's opportunities for goal attainment (*goal-opportunity congruence*). Thus, motivational strategies are not adaptive in and of themselves; instead motivational strategies become adaptive when they are congruent with an individual's

control over attaining a given goal. The second criterion is that goal pursuit should have positive or at least non-detrimental effects on individuals' capacity to pursue important developmental goals in other domains of their life (*management of inter-domain and long-term consequences*). In this way, individuals must strive toward synergy between goal pursuits in order to maximize the effectiveness of their limited motivational resources. For example, consider a married man with children and his investment of motivational resources into his career development. This man's investment of motivational resources toward career goals would be considered adaptive to the extent that it has a long-term positive or at least non-detrimental impact on his relationships with his wife and children. The third criterion is that individuals should not become too specialized or narrow in their goal pursuits. Instead, individuals should maintain a range of goal pursuits across important life domains (*goal diversity*). This strategy prevents individuals from becoming overly dependent upon the attainment of a given goal, and provides greater long-term adaptation by allowing individuals to simultaneously develop across multiple life domains. In the words of Miguel de Cervantes Saavedra (1605; 1615), "*It is the part of a wise man to keep himself today for tomorrow, and not venture all his eggs in one basket*."

After a goal has been chosen and a plan to attain the goal has been established, individuals begin to selectively invest their motivational resources in pursuit of the goal. Individuals' selective investment of motivational resources can be broadly divided into motivational strategies directed toward the external environment (primary control strivings, "change the world"), and motivational strategies directed toward the internal environment (secondary control strivings, "change the self") (Heckhausen & Schulz, 1995; Rothbaum, Weisz & Snyder, 1982). These motivational strategies (i.e., selective primary and selective secondary control strategies) are mutually reinforcing, allowing individuals to sustain commitment to goal

pursuit. More specifically, individuals' enhancement of perceived opportunity for and personal control over attaining a pursued goal (selective secondary control strivings) facilitates their goal-directed investment of thought and effort (selective primary control strivings) toward attaining the goal (Gollwitzer, Heckhausen & Stellar, 1990; Gollwitzer & Kinney, 1989; Heckhausen & Gollwitzer, 1987; Heckhausen, 1999; Heckhausen & Heckhausen, 2008). The mutually reinforcing nature of selective primary and selective secondary control strivings is particularly effective in maintaining individuals' goal pursuit during times of change or uncertainty (Hall, Perry, Ruthig, Hladkyj & Chipperfield, 2006; Poulin & Heckhausen, 2007). For example, consider Mary, a recent university graduate in biology who wants to become a physician. After selecting this career goal, Mary may selectively engage with attaining her career goal by taking the MCAT and applying to medical schools (selective primary control strategies), and telling herself that she has the skills needed to become a physician (selective secondary control strategies). These selective engagement strategies increase the chances that Mary will successfully attain her career goal of becoming a physician.

However, not all goals are attainable. Indeed, motivational theory contends that the most adaptive developmental goal pursuits are those that have an intermediate level of success/failure (McClelland, 1961). Thus, individuals must develop strategies to compensate for inevitable failures experienced in goal pursuits. Examples of compensation strategies include seeking help or alternative means to attain a goal (compensatory primary control), or downwardly adjusting the pursued goal to something more attainable, disengaging from the goal, discounting the value of the previously pursued goal, or using downward social comparisons (compensatory secondary control) (Heckhausen & Schulz, 1995). Compensatory primary control strategies are considered part of goal engagement, and gain in prominence when individuals experience setbacks in their

goal pursuits (Heckhausen, Wrosch & Schulz, 2010). Compensatory secondary control strategies constitute goal disengagement, and become implemented once individuals decide that the current goal pursuit is no longer feasible. Returning to Mary, if she experiences setbacks or failures in her pursuit of becoming a physician, she will need to compensate in order to maintain her motivational resources that can be then be directed toward future goal pursuits. For instance, after being rejected by all the medical schools she applied to, Mary may seek help from others and enroll in a MCAT preparation course (compensatory primary control strategies), or downplay the importance of becoming a physician and adjust her career goal to something more attainable such as a physician's assistant (compensatory secondary control strategies). The capacity to disengage from goal pursuits allows individuals to maintain their motivational resources, and then direct these motivational resources toward future goal pursuits. Indeed, goal disengagement is a powerful component of individuals' long-term capacity to influence their own development (Wrosch, Scheier, Carver & Schulz, 2003).

The coordination of motivational self-regulation strategies allows individuals to actively influence their own development. While this aspect of individual agency forms the basis for the dissertation research, it is important to consider the biological and societal influences that constrain individual agency. Perhaps most simply explained by Kurt Lewin (1936), human behavior is a function of the individual and her or his environment. Indeed, individuals do not exist in isolation. Instead, individual agency is bounded by biological and societal factors that provide constraints and opportunities to exercise individual agency (Evans, 2002; Evans 2007; Heckhausen, 1999; Shanahan & Hood, 1998). Thus in order to understand how individuals actively influence their own development, we must understand both individual agency and the

developmental ecology that forms the arena within which individuals act (Baltes, 1987, 1997; Bronfenbrenner, 1979; Elder, 1998; Ford & Lerner, 1992; Heckhausen, 1999; Mayer, 2003).

Developmental Ecology

While individuals actively contribute to their development, they act within the opportunities and constraints present in their developmental ecology. An individual's developmental ecology is multidimensional, ranging from direct contact with the people and places in one's surroundings to indirect effects stemming from social and historical context (Bronfenbrenner, 1979). In addition, individuals' developmental ecology changes in response to their motivational strategies, age and biological maturation (Baltes, 1987; Heckhausen, 1999; Neugarten, Moore & Lowe, 1965; Settersten & Hagestad, 1996[a], 1996[b]). Thus, the adaptiveness of individuals' attempts to influence their own development must be considered within the encompassing developmental ecology (Heckhausen, Wrosch & Schulz, 2010).

A short diversion into biological principles provides some insight into how individuals' developmental ecology structures their development across the lifespan. A particularly informative framework for understanding lifespan development comes from Waddington's notion of canalization (1942), wherein he introduced the concept of an epigenetic landscape to describe how cells develop. In this theory, cells begin with the capacity to form many different tissues or organs, but become increasingly specialized in their form depending on the context within which they develop. Thus, a cell developing in the brain region may form into a neuron, while the same cell developing in the chest may form into lung tissue. Developmental psychologists (Baltes, 1997; Gottlieb, 1991; Heckhausen; 1997; Lerner, 2003) have applied Waddington's epigenetic landscape as a theoretical framework to help explain how individuals' developmental ecology contributes to the canalization of developmental outcomes. The basic

idea being that individuals begin life with an enormous capacity to adapt to their environment, yet become increasingly specialized in their goal pursuits in direct response to the environmental constraints and opportunities present in their developmental ecology. At transition or inflection points, such as the transition to adulthood, individuals face less environmental constraints, allowing multiple paths for the direction of their agency (Heckhausen 1999). However, as individuals pursue particular goals, they become increasingly canalized toward that developmental path. While individuals can switch paths of engagement, it requires progressively more effort the farther along one travels a different path. Eloquently put by Robert Frost (1920), "*Oh, I kept the first for another day! Yet knowing how way leads on to way, I doubted if I should ever come back.*"

Where developmental theory breaks from Waddington's concept of canalization is in regard to the dynamic nature of the canalizing factors on human development. In particular, Gottlieb (1991) emphasizes that an individual's developmental ecology is composed of multiple overlapping systems (e.g., genes, family environment, social and historical context) that change across the lifespan in response to experiences with the environment. Thus, interactions among these systems direct, or canalize individuals toward particular paths of development. As individuals develop, and importantly exercise their individual agency, the canalization "terrain" shifts to partly reflect individuals' actions, thoughts, and experiences.

Developmental systems theory (Ford & Lerner, 1992) provides further clarification of the factors that frame an individuals' developmental ecology, and in turn structures and directs their development across the lifespan. Developmental systems theory underscores the complexity and interrelatedness of underlying factors that collectively canalize an individual's development. As changes occur in one factor, for example the historical events surrounding the recent recession,

changes occur in other factors that collectively alter an individual's opportunities and constraints to pursue different developmental paths. To illustrate this process, Figure 1 presents a hypothetical canalizing "terrain" supported by interrelated underlying factors. As individuals develop across their lifespan, we can expect interrelated changes occurring between the underlying factors that form the canalizing "valleys" and "peaks" of an individual's developmental ecology. Again, while changing developmental paths is possible, it becomes increasingly difficult the farther an individual progresses down a different path.

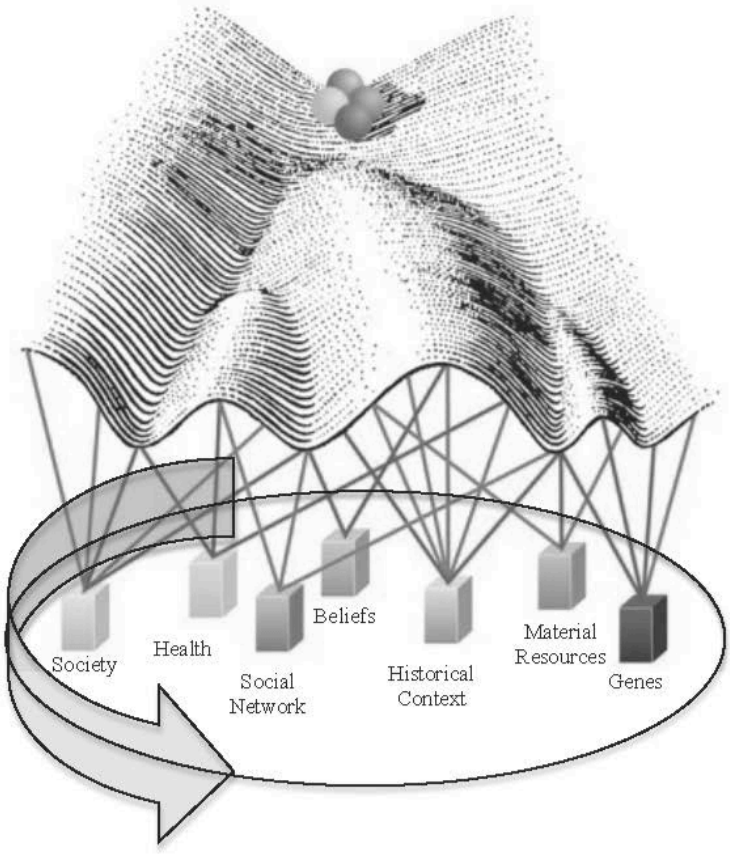

Figure 1. Hypothetical depiction of how canalizing factors direct an individual's lifespan development. Note, not all possible canalizing factors are presented, and the canalizing factors are interrelated with one another.

While lifespan psychology and life course sociology differ in the prominence they give to individual agency and structural processes respectively, they converge with the understanding that both the individual and the societal structure in which they act need to be considered for a more complete picture of human development (Elder, 1998; Evans, 2002, 2007; Ford & Lerner, 1992; Heckhausen, 1999; Mayer, 2003; Shanahan & Hood, 1998). From a sociological perspective, the term "bounded agency" describes the interaction between individuals' agency and their ecological context (Evans, 2002; Evans, 2007; Shanahan & Hood, 1998). In essence, bounded agency implies that individual agency is canalized by the opportunities and constraints present in an individual's society, culture, and historical context. These sociocultural opportunities and constraints direct individuals toward particular developmental goal pursuits (Heckhausen, 1999), and are tightly tied to an individual's age, both in terms of biological maturation processes and expected behavior patterns for different age groups (Baltes, 1987; Heckhausen, 1999). In effect, individuals internalize societal norms regarding what goal pursuits are appropriate for different ages in the lifespan, in turn directing their motivational resources toward these age-appropriate goal pursuits (Neugarten, Moore & Lowe, 1965). Empirical support comes from research by Settersten and Hagestad (1996[a], 1996[b]), which finds strong and shared beliefs in the age which family, career, and educational goals should be pursued and attained.

The age-graded goals that societal norms and sociocultural constraints direct individuals toward are referred to as developmental tasks (Havighurst, 1948) or developmental goals (Heckhausen, 1999), which parallel individuals' lifespan trajectories of primary control capacity. From a biological perspective, individuals' primary control capacity rises through young adulthood, peaks in middle age, and then declines in old-age (Heckhausen & Schulz, 1995). These maturation and aging processes are reflected in the expectations society has for

appropriate goal pursuits at particular points in the lifespan. In turn, societal norms and institutions direct individuals' goal pursuit by providing opportunities to pursue developmental "on-time" goals, and constraints hindering the pursuit of "off-time" goals. For example, individuals in America cannot be employed full-time until they are 16 years of age (Fair Labor Standards Act, 1938). At 16, individuals' opportunities for employment and primary control capacity are both very limited. However, individuals' employment opportunities become more prevalent and their primary control capacity rises as they age through adulthood. Then, as individuals transition through old age and retirement, both their opportunities for employment and their primary control capacity decline. To the extent that individuals' career-related goal engagement mirrors their primary control capacity, career-related goal engagement is considered an on-time goal pursuit. To the extent that these factors become mismatched or incongruent (e.g., high career engagement in early adolescence), career-related goal engagement is considered an off-time goal pursuit.

Returning to the Motivational Theory of Life-Span Development (MTLD), a central criterion of adaptive motivational self-regulation is that goal engagement and goal disengagement strategies become adaptive when they are congruent with an individual's capacity to control the attainment of a given goal (Heckhausen, Wrosch & Schulz, 2010). The societal facilitation of developmental goal pursuits allows individuals to pursue age-appropriate (on-time) goals with less effort and fewer constraints than age-inappropriate (off-time) goal pursuits. Thus, individuals' engagement toward on-time goal pursuits is congruent with societal opportunities, making goal engagement strategies generally adaptive. However, as individuals approach a developmental deadline, or the point at which further pursuit of a goal becomes off-time, their capacity to control the attainment of this goal begins to decline (Heckhausen, 1999). At this

point, increased investment of thought and effort (primary control striving), seeking help from others (compensatory primary control), and increased volitional enhancement strategies (selective secondary control), become adaptive motivational strategies.

After passing a developmental deadline, individuals' declining capacity for control over goal attainment becomes increasingly incongruent with any continued persistence in goal pursuit. At this point, disengagement from the goal pursuit generally becomes the most adaptive motivational response as continued persistence can be expected to result in adverse health and wellbeing, and limit the motivational resources individuals have to pursue other developmental goals. Empirical support comes from studies on childbearing (Heckhausen, Wrosch & Fleeson, 2001) and partner seeking (Wrosch & Heckhausen, 1999), which find that individuals engaging in on-time, or pre-deadline goals experience positive mental health and well-being effects, while individuals who engage in off-time, or post-deadline goal pursuits experience negative health and well-being effects.

Young Adult Agency in a Changing Developmental Ecology

In the following section, the theoretical framework discussed previously is applied to young adults' social mobility and career development. As discussed previously, both an individual and the social structure in which he or she acts need to be considered for a more complete picture of how individuals develop (Elder, 1998; Evans, 2002, 2007; Ford & Lerner, 1992; Heckhausen, 1999; Mayer, 2003; Shanahan & Hood, 1998). Thus, both individual agency and developmental ecology will be discussed as they relate to the pursuit of social status and career development during the transition to adulthood.

Our discussion of young adults' developmental ecology begins with the social structure. When examining the social structure it is important to consider both the institutions and norms of a given society as well as individuals' perceptions of these social institutions and norms (Bergman & Luckmann, 1966; Douglas, 1986; Elias, 1939; Heckhausen, 1999). According to social constructionist theory, social institutions are built upon normalized patterns of thought and behavior that serve to reduce the uncertainty of life (Bergman & Luckmann, 1966). As social institutions are passed through generations, they become increasingly ingrained as the objective (social) reality in cohorts born and raised within this society. Then, as each cohort tests the utility of these social institutions against their personal time and place, the institutions are reinforced, reformed, or removed.

Growing up in the United States, individuals are exposed to a number of ideologies that support existing social institutions. Indeed, at very young ages children begin actively seeking out these ideologies to help them organize their understanding of the social world (Douglas, 1986). With increasing age, individuals gain the capacity to test their institutionalized understanding of the social world against their actual experiences, leading to a greater differentiation of beliefs. For example, when considering social status, it is around the age of 6 when children begin to attribute higher effort and ability to individuals who have a high social status (Leahy, 1990; Sigelman, 2012[a]; Sigelman, 2012[b]). While these beliefs become differentiated as individuals develop, the belief that individuals attain a high social status in America through their personal effort and ability (e.g., individual agency) remains the majority opinion (Christopher & Schlenker, 2000; Cozzarelli, Wilkinson & Tagler, 2001; Isaacs, 2008). In turn, the belief that individual agency, in this case "merit," determines an individual's social

status further legitimizes existing social hierarchies by viewing individuals of high social status as having personally earned their status.

The belief that an individual's merit determines her or his social status is reinforced through a number of supporting ideologies, including the American dream, independence, the Protestant ethic, and the land of opportunity. The American dream, first coined by James Adams in the Epic of America (1931) as "*that dream of a land in which life should be better and richer and fuller for everyone, with opportunity for each according to ability or achievement… a dream of social order in which each man and each woman shall be able to attain to the fullest stature of which they are innately capable… regardless of the fortuitous circumstances of birth or position,*" reinforces perceptions of opportunity, contingent upon an individual's merit. The notion of independence, stemming from the Declaration of Independence statement that "*all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness*" (National Archives, 2011), reinforces perceptions of equal opportunity, and in so doing stresses the role of an individual in determining his or her fate. The Protestant ethic (Weber, 1958), which asserts that individuals are morally responsible to pursue their calling to the limits that their ability and effort will take them, reinforces perceptions of personal responsibility for development, again contingent upon an individual's merit. America as the land of opportunity, perhaps best summed up by the engraving on the Statue of Liberty containing *The New Colossus* (Lazarus, 1888) that reads, "*Give me your tired, your poor, your huddled masses yearning to breathe free, the wretched refuse of your teeming shore. Send these, the homeless, tempest-tost to me, I lift my lamp besides the golden door!*" also serves to reinforce perceptions of equal opportunity and personal responsibility for one's development.

Collectively, these dominant American ideologies produce beliefs of intergenerational and intragenerational upward social mobility, achieved primarily through individual agency in the form of individual merit (e.g., effort and ability). Indeed, cross-national comparisons find that of the 25 countries examined, Americans report the strongest endorsement that individuals receive economic rewards through their personal merit (e.g., effort and ability) (Isaacs, 2008). The primary "merit" selection process is viewed as the education system, leading to the concept of a credentials society (Bell, 1972). Although the American educational system does not provide equal opportunities, thus corrupting the primary route toward social mobility, it is nevertheless perceived as instrumental to social mobility (Haveman & Smeeding, 2006). Individuals' motivational strategies can be seen shifting in response to the increased importance of obtaining higher education degrees, with university enrollment and the number of university graduate increasing over the past three decades (Goyette, 2008).

Although attaining educational credentials greatly increases individuals' employment prospects and lifetime earnings (Bureau of Labor Statistics, 2010), social and economic changes brought about by globalization (Buchholz, Hofäcker, Mills, Blossfeld, Kurz & Hofmeister, 2009) in conjunction with the great recession have severely constrained employment prospects for young adults (Danziger & Ratner, 2010). Even though university graduates over the age of 25 have an unemployment rate less than half that of individuals with a high school degree or less (Bureau of Labor Statistics, 2012[a]), employment for younger and more recent college graduates is far from guaranteed. Nearly half of all recent college graduates under the age of 25 are unemployed or underemployed (Godofsky, Zukin & Van Horn, 2011), and only three of the twenty occupations expected to have the most new job openings through 2020 require a four-year college degree or higher (Bureau of Labor Statistics, 2012[b]). Compounding matters, rising

costs required to pursue higher education have provided additional constraints on social mobility, both in terms of choosing to pursue higher education (Nagaoko, Roderick & Coca, 2009), and student loan debt accrued through the higher education process (Project on Student Debt, 2011).

The mounting debt and uncertainty of finding employment in one's field may make recent university graduates more likely to employ compensatory control strategies in their career development. Indeed, roughly a third of recent university graduates who manage to find work report making significant accommodations to attain employment, such as taking a lower paying or temporary job that is outside of their major or below their educational qualifications, moving to a new area, or working unwanted hours (Godofsky, Zukin & Van Horn, 2011). In addition, graduating in a recession has adverse long-term impacts, both in terms of taking and staying longer at less prestigious positions, and receiving a roughly 10% reduction in salary (Kahn, 2010; Oreopoulos, Von Wachter & Heisz, 2008). Finally, empirical support challenges the permeability of the American system, suggesting limited chances for upward social mobility, particularly for individuals born into very poor families (Corak, 2006; Mazumder, 2005; Silvia, Quinlan & Seydell, 2011).

Despite staring in the face of economic uncertainty, young adults remain generally optimistic about their future (Taylor, Parker, Kochhar, Fry, Funk, Patten & Motel, 2012), and endorse key tenets of the American dream concerning upward intergenerational social mobility attained through one's merit (Shane & Heckhausen, 2013). Here we can see a potential disconnect between young adults' objective opportunities for social mobility and their perceived opportunity for moving up the social ladder. Perhaps best summed up by the comedian George Carlin (2005) when he said, "*The reason they call it the American Dream is because you have to be asleep to believe it*," the disconnect between young adults' perceived opportunities and their

objective opportunities may have important long-term consequences on young adults' lifespan development. In terms of motivational theory, believing that the system is fair plays an important role in long-term goal pursuit. According to the just world hypothesis, individuals are more willing to commit themselves to long-term goal pursuit when they believe that their efforts will be fairly compensated for in the end (Lerner, 1978). In this way, perceiving that the world is just promotes individuals' adoption and pursuit of developmental goals. Empirical research supports the just world hypothesis as it relates to young adults' willingness to commit to long-term goals, such as career pursuit (Laurin, Fitzsimons & Kay, 2011; Otto, Glaser & Dalbert, 2009). What this line of research also highlights is the increasingly central role that just world beliefs play for individuals' willingness to commit to long-term goal pursuits when opportunities are constrained or uncertain.

In the United States, we can expect a belief that the world is just to reflect the dominant, meritocratic-oriented ideologies of American society. In turn, adopting a meritocratic belief system should facilitate individuals' commitment to long-term developmental goals, such as career development. Converging evidence comes from motivational theory, particularly regarding control beliefs. Control beliefs are individuals' perception of their capacity to control the environment, and can be broken down further into beliefs about the efficacy of possible means to control the environment and one's personal capacity to access these means to control the environment (Skinner, 1996). This means-ends-agency framework implies that goal engagement is facilitated when individuals perceive they have the necessary means to attain the desired end goal. High control beliefs regarding one's effort and ability (internal locus of control, Weiner, 1985) promote goal engagement, while high control beliefs in luck (external locus of control, Weiner, 1985) in the absence of high beliefs in effort and ability reduces motivational

commitment (Skinner, Zimmer-Gembeck, Connell, Eccles & Welborn, 1998). Viewing American society as meritocratic implies that the means to attain social mobility are individual effort and ability, and high beliefs in one's personal effort and ability should then facilitate commitment to developmental goal pursuits.

Despite the generally adaptive nature of pursuing goals that are congruent with one's perceived capacities, the means and ends of goal pursuit are dynamic, developing in conjunction with societal changes and an individual's preferences and biological maturation (Emirbayer, 1998). As inequalities continue to rise in American society (Congressional Budget Office, 2012; OECD, 2011), a conflict can be seen brewing between long held perceptions of how America is structured and the current reality of the social structure (Taylor, Parker, Morin & Motel, 2012). This conflict poses an interesting research question, namely how does young adults' perceptions of opportunities for social mobility in a changing society influence their motivational commitment toward long-term social mobility-related goal pursuits? And in turn, how do successes and setbacks in social mobility-related goal pursuit influence individuals' perceptions of their opportunities to attain upward social mobility?

Research on East and West Germans' career and economic-directed primary control strivings across the years immediately following the formation of the Federal Republic of Germany provides some understanding of how individuals' perceptions of opportunity for social mobility influence their motivational commitment to social mobility-related goals (Heckhausen, 1999). The unification between East and West Germany provided increasingly uncertain but potentially successful economic futures for East German young adults whose social structure radically changed when they left the Iron Curtain. Reflecting this changing opportunity structure, the results illustrated that due to their uncertain but potentially successful economic future, East

German young adults expressed the strongest career and economic-directed primary control striving, whereas East Germans in their early 50s reported discouragement and depression in response to their severely constrained economic options. Parallels can be seen in the United States; as young adults are responding to increasingly uncertain, yet potentially successful employment opportunities (Buchholz, et al., 2009) by directing their motivational resources toward establishing financially secure careers (Twenge, Campbell & Freeman, 2012).

Additionally, earlier work in our research program (Shane & Heckhausen, 2013) suggests an individual's belief that she or he has the requisite merit to attain upward social mobility enhances her or his career and education-directed goal engagement and expectations for future social status. This research also finds that individuals who endorse fatalistic-oriented control beliefs (e.g., luck) diminish their engagement with and expectations for upward social mobility. Liberal societies such as the United States have a high flexibility between developmental paths and permeability between social statuses, but the welfare-system provides a weak safety net (Buchholz, et al., 2009). This type of social structure provides substantial opportunity for both upward and downward social mobility, and places increased pressure on the individual as personally responsible for her or his personal social mobility outcomes (Heckhausen, 2010; Heckhausen & Chang, 2009). Empirical findings suggest that in Liberal societies, young adults holding high aspirations experience the greatest success in attaining long-term career and education goals pertinent to social mobility (Heckhausen, Chang, Greenberger & Chen, 2012; Schoon & Polek, 2011). Thus, in the United States, young adults' endorsement of merit-oriented beliefs and enhanced perceptions of their opportunity for upward social mobility can produce positive social mobility-related outcomes.

Turning to career development in particular, individual agency is increasingly seen as central to an individual's career development (Briscoe & Hall, 2006; Littleton, Arthur & Rousseau, 2000). In line with this perspective, the social-cognitive theory of career development (Lent, Brown & Hackett, 1994) emphasizes the instrumental role of individual agency in determining the types of career-related goal pursuits an individual will engage in and the outcomes that this engagement produces. However, the developmental-contextual model of career development (Vondracek, Lerner & Schulenberg, 1986) asserts that the adaptiveness of individuals' career-related motivational strategies can only be assessed within the opportunities and constraints present in an individual's developmental ecology (Vondracek, Ferreira & dos Santos, 2010). This contextual approach converges with the congruence principle from the MTLD (Heckhausen, Wrosch & Schulz, 2010), and reminds us that both an individual and her or his developmental ecology must be considered conjointly when assessing the adaptiveness of a given motivational strategy.

Further research from our program illustrates the congruence principle as it relates to adults' long-term career development (Shane & Heckhausen, 2012). This research examines the interdependent effects of adults' individual agency (in the form of career-related primary control striving) and the degree of control they perceive having over their career development (a proxy of ecological opportunities and constraints). Supporting the congruence principle, this research finds that individuals who are highly engaged with highly controllable careers report the most positive career and health-related outcomes nine years later. In addition, disengaging from low-controllable careers provides a self-protective effect, which is manifested in positive health-related outcomes nine years later. Highlighting the power of individual agency, individuals who are highly engaged with low-controllable careers report positive long-term career-related

outcomes. However, the incongruency between these individuals' control strivings and their opportunities for control is associated with long-term detriments to their health and capacity to continually extend high levels of thought and effort into their work. Research on career pursuit in the transition to adulthood also shows that motivational commitment is a strong predictor of career attainment (Haase, Heckhausen & Köller, 2008), and that high congruency between the strength of individuals' motivational commitment and opportunity for control over goal attainment has a positive association with well-being (Haase, Heckhausen & Silbereisen, 2011).

As young adults experience successes and setbacks in their career-related goal pursuits, we can expect to see changes in their societal beliefs and personal agency beliefs. Successful pursuit of career-related goals may reinforce individuals' beliefs in the opportunities present in society and their personal control over attaining career-related goals. Indeed, previous research suggests that individuals who successfully attain upward social mobility enhance their perceived control over attaining further upward social mobility (Diewald, 2007). In addition, national surveys indicate that higher income individuals are more likely to endorse merit-oriented causes for why individuals attain their social status in America (JWT, 2010; Taylor, Parker, Morin & Motel, 2012). While advantaged individuals are motivated to endorse society as fair and to view their status as being earned through merit-based means (Knowles & Lowery, 2012), disadvantaged individuals are also motivated to view society as fair in order to facilitate their commitment to long-term goal pursuit (Jost, Banaji & Nosek, 2004; Laurin, Fitzsimons & Kay, 2011; Lerner, 1978). Thus, we can expect general support of the social system, particularly when individuals are engaged with attaining upward social mobility. However, individuals who are disengaged from upward social mobility pursuit may challenge the availability of opportunities present for upward mobility in their society. In particular, we can expect these individuals to

shift their perceptions of what controls social status away from individual merit and toward factors that are outside of an individual's control, such as fate, luck, and privilege.

Summary of the Current Research

In sum, both the individual agent and her or his developmental ecology play overlapping roles in career development across young adulthood. Social changes related to globalization and the recent recession have constrained employment opportunities for young adults, producing uncertain but potentially successful prospects for career development. In periods of economic uncertainty with some level of perceived control, individuals tend to respond with enhanced commitment to career-related goal pursuits and enhanced perception of opportunities for goal attainment. Career-related goal pursuit is adaptive to the extent that individuals' career-related motivational strategies are congruent with their career-related opportunities. However, individuals' perceptions of opportunity may not accurately reflect their objective opportunity, leading to differential health, well-being, and goal attainment outcomes. Experiencing successes and setbacks in career development may reinforce or challenge individuals' perceptions of opportunity for future upward social mobility.

Current Study

The dissertation applies the theoretical context discussed previously to career development and expectations for socioeconomic status attainment in the transition to adulthood. The purpose of the research is to extend our understanding of the role that young adults' beliefs about socioeconomic status attainment play in their motivational commitment to career-related goals, the long-term effects of motivational commitment to these career-related goals, and how young adults' beliefs about socioeconomic status attainment change in response to progress or setbacks in their career-related goal pursuits.

Within this framework, the proposed study assesses the following specific research questions. (1) How do young adults believe that socioeconomic status is attained in America by people in general, and for themselves personally? (2) How are young adults' beliefs about the fairness of the world related to their beliefs about how socioeconomic status is attained by other people in American society, and how are these beliefs subsequently related with the factors they identify as causal to their own socioeconomic status attainment? (3) How do young adults' beliefs about socioeconomic status attainment relate to their engagement with career-related goals? (4) How are young adults' career-related motivational strategies related to career development? and (5) How does an individual's career development influence her/his subsequent beliefs about socioeconomic status attainment?

Research Questions and Hypotheses

Presented in Figure 2 is a conceptual model for the dissertation research that is based on previous research (Shane, Heckhausen, Lessard, Chen & Greenberger, 2012; Shane & Heckhausen, 2012; Shane & Heckhausen, 2013), and the theoretical background provided by the

Motivational Theory of Life-Span Development (MTLD) (Heckhausen, Wrosch & Schulz, 2010). Using this general framework, the following section discusses each research question in greater depth, with specific hypotheses made.

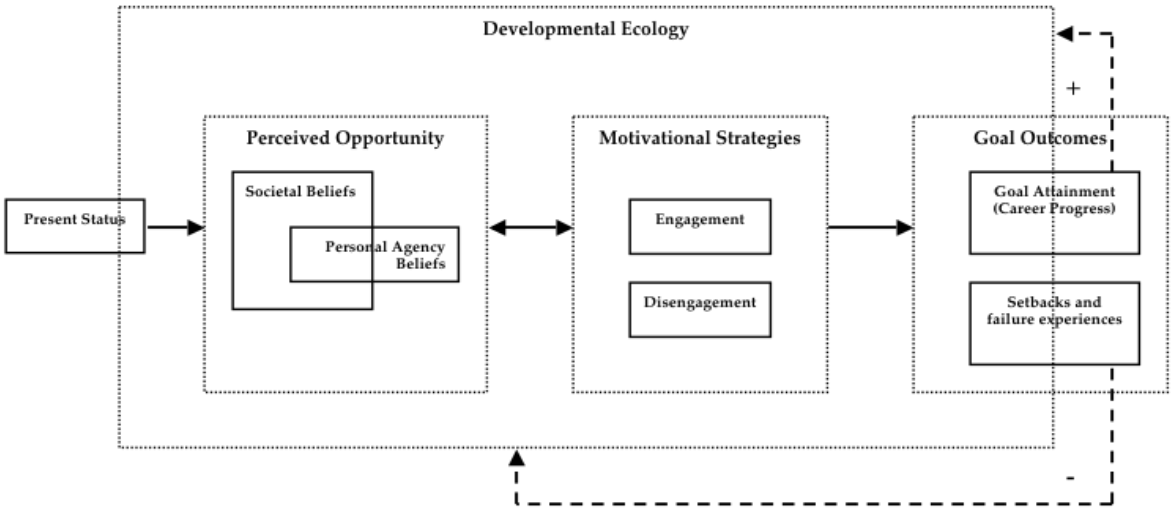

Figure 2. Conceptual model for the dissertation research.

Research Question 1: How do young adults believe that socioeconomic status is attained in America for people in general, and for themselves personally?

Hypothesis 1: Beliefs about socioeconomic status attainment in America will reflect the dominant ideology of American society.

Hypothesis 1a: Individuals are expected to believe that they will attain a higher socioeconomic status in the future than they have currently (upward intragenerational social mobility) and than their family-of-origin has (upward intergenerational social mobility).

Hypothesis 1b: Individuals are expected to endorse meritocratic causal factors as the primary reason why other people have attained a high socioeconomic status in America.

Hypothesis 1c: Individuals are expected to endorse meritocratic causal factors as the primary reason why they themselves will attain their future social status.

While rising economic inequality has constrained objective opportunities for upward social mobility (Mazumder, 2005; Silvia, Quinlan & Seydell, 2011), perceptions of opportunity for upward social mobility attained through individual merit remain the majority opinion (JWTIntelligence, 2012; Shane & Heckhausen, 2013; Taylor et al., 2012). This belief system is congruent with the dominant ideology of American society, which emphasizes upward intergenerational and intragenerational social mobility that is attained primarily through individual merit (Kluegel & Smith, 1986). Based on this, we can expect young adults to believe that they will attain a higher SES than their family-of-origin, and a higher SES than they currently have. Furthermore, young adults can be expected to believe that their upward intergenerational and intragenerational social mobility will be the result of individual merit.

Research Question 2: How are young adults' beliefs about the fairness of the world related to their beliefs about how socioeconomic status is attained by other people in American society, and how are these beliefs subsequently related to the factors they identify as causal to their own socioeconomic status attainment?

Hypothesis 2a: Young adults whose family has a higher socioeconomic status, and who currently have a higher personal socioeconomic status will be more likely to believe that the world is fair and just.

Hypothesis 2b: Perceptions that society is fair and just will be positively associated with young adults' endorsement of merit-oriented societal beliefs for socioeconomic status attainment. Conversely, perceptions that society is unfair and unjust will be positively associated with individuals' endorsement of privilege/fatalistic- and social connections-oriented societal beliefs for socioeconomic status attainment.

Hypothesis 2c: Personal agency beliefs for socioeconomic status attainment will reflect individuals' societal beliefs for socioeconomic status attainment. Personal agency beliefs regarding merit are expected to be endorsed by individuals who view socioeconomic status in America as being attained primarily through individual merit. Personal agency beliefs regarding luck are expected to be endorsed by individuals who view socioeconomic status in America as being primarily attained through unearned or fatalistic means. Personal agency beliefs regarding social connections are expected to be endorsed by individuals who view socioeconomic status in America as being primarily attained through social connections.

A belief that the world is fair and just essentially argues that people get what they deserve (Lerner, 1975). Although research in system justification argues that all individuals are motivated to believe that the world is generally fair and just (Jost, Banaji & Nosek, 2004), individuals whose families have a higher socioeconomic status may be especially inclined to endorse these beliefs in order to justify their families' successes and mitigate the privilege that their upbringing may have conferred upon them.

Next, the dissertation aims to understand how these beliefs about the fairness and justice of the world are translated into beliefs about how socioeconomic status is attained. Here it is expected that individuals who view the world as just will be more likely to attribute other individuals' socioeconomic status attainment to internal causal factors (e.g., individual merit) as opposed to external causal factors (e.g., privilege and social connections). In other words, if individuals get what they deserve and they have attained a high socioeconomic status then they must have done something to directly earn that socioeconomic status.

The final hypothesis related to Research Question 2 details how beliefs about other individuals' socioeconomic status attainment are related to beliefs about how young adults

believe they themselves will attain socioeconomic status. Here, societal and personal agency belief systems are expected to reflect one another. More specifically, individuals who believe that other individuals attained their socioeconomic status through merit will be more likely to say that they themselves will attain their future socioeconomic status through merit. Similarly, individuals who believe that socioeconomic status was attained by other people through social connections will be more likely to say that their own socioeconomic status will also be attained through social connections. Following this line of logic, individuals who believe that socioeconomic status is attained through privilege or fate will be more likely to say that their own socioeconomic status attainment will be due to factors which they cannot directly control, in this case luck. It should be noted that young adults likely hold complex belief systems that emphasize multiple factors regarding their own and other people's socioeconomic status attainment. That being said, it is expected that these belief systems will generally be complimentary of one another. Belief systems that emphasize personal control (e.g., merit) are not likely to coincide with beliefs that emphasize a lack of personal control (e.g., privilege and luck). However, social connections may be related to both of these belief systems as they represent something that can be controlled and enacted by the individual (e.g., through social networking and social skills), but is an external causal factor that may also be viewed as outside of one's own control.

Research Question 3: How do young adults' beliefs about socioeconomic status attainment relate to their engagement with career-related goals?

Hypothesis 3a: Belief systems that emphasize personal control (e.g., merit) and belief systems that are viewed as instrumental and partly controllable (e.g., social connections) will be positively related to career-related goal engagement strategies.

Hypothesis 3b: Conversely, belief systems that emphasize a lack of personal control over socioeconomic status attainment (e.g., luck) will be positively related to career-related goal disengagement.

The ways in which individuals believe that they can control the attainment of their career goals are expected to have differential effects on their decision to expend motivational resources toward or away from their career goals. In particular, beliefs that emphasize personal control (e.g., merit) are inherently motivating as they signal to the individual that their goal attainment is contingent upon their own investment of time, energy, and ability. Similarly, beliefs that are partly controllable but must be enacted by the individual in order to facilitate goal attainment (e.g., social connections) also signal to the individual that their motivational resources are required. In these ways, merit- and connections-oriented belief systems are expected to be positively associated with individuals' employment of goal engagement strategies. Conversely, individuals who believe that their career goals are attained through luck or privilege have no incentive to invest motivational resources. As such, these uncontrollable belief systems are expected to be positively associated with individuals' employment of goal disengagement strategies. These hypotheses are supported by previous findings from our research program, which finds that individuals who believe that they can control their career goals through their merit and social connections are more likely to be engaged with their career goals (Shane,

Heckhuasen, Lessard, Chen & Greenberger, 2012). Whereas individuals who believe their future socioeconomic status will be determined through luck are more likely to adopt a goal disengagement mindset (Shane & Heckhausen, 2013).

Research Question 4: How are young adults' career-related motivational strategies related to career development?

Hypothesis 4a: Career-related goal engagement strategies will be positively associated with career development.

Hypothesis 4b: Career-related goal disengagement strategies will be associated with stagnation or decline in career development.

Previous research indicates that sustained engagement toward career goals results in long-term career-related progress (Converse, Pathak, DePaul-Haddock, Gotlib & Merbedone, 2012; Haase, Heckhausen & Köller, 2008; Shane & Heckhausen, 2012). While the strength of the relationship is dependent upon the amount of control an individual has over attainment of the pursued career-related goal, it is expected that individuals who are highly engaged with their career goals will be more likely to experience positive career-related development than those individuals who disengage from their career goals.

Research Question 5: How does an individual's career development influence her/his subsequent beliefs about socioeconomic status attainment?

Hypothesis 5: Successful career development will enhance individuals' perceptions of opportunities for socioeconomic status attainment, while setbacks will diminish individuals' perceptions of opportunities for socioeconomic status attainment.

According to economic theory, human capital is an individual's work-related experience and training, educational qualifications, and skill set that collectively produce employment opportunities (Becker, 1964, 1993). As young adults attain a higher education degree, career-related employment, or other training and internships, they should experience increased opportunities for socioeconomic status attainment. Conversely, young adults who do not accumulate 'capital' will likely experience a stagnation or decline in opportunities for socioeconomic status attainment. In short, the greater an individual's 'capital' the more likely it is that she or he will be able to attain their chosen career, and in turn, attain socioeconomic status. Referring back to Figure 2, as individuals experience greater objective opportunities for socioeconomic status attainment through their career development, they can be expected to perceive themselves as having greater opportunities for future socioeconomic status attainment. However, when individuals' career development stagnates or declines they can be expected to perceive themselves as less able to control their future socioeconomic status attainment.

Study 1: Method

Study 1: Participants & Procedure

Study 1 of the doctoral dissertation is an 18-month longitudinal assessment of University of California, Irvine (UCI) students. Beginning in the Fall of 2011, 140 UCI undergraduates were recruited through the UCI Human Subjects Pool and completed the initial survey at the UCI Life-Span Development and Motivation lab. Participants completed up to 4 assessments; Fall 2011, Spring 2011, Fall 2012, and Spring 2012. The initial sample is composed of roughly half Juniors and half Seniors. This sample design allows for year in school to be used as the time metric. Thus, the study has six time-points; Fall quarter Junior year, Spring quarter Junior year, Fall quarter Senior year, Spring quarter Senior year, Fall after graduation, and Spring after graduation. However, four observations are the most that any given participant contributes to the analyses. Participants received their choice of extra credit to allocate to the eligible class of their choice or a $5 gift certificate to amazon.com for completion of each 30-minute survey.

The sample demographics at the initial assessment are as follows. The sample is predominately female (n = 99; 70.7%). The mean age is 21.56 years (SD = 2.55). There are 71 participants who were seniors at the first assessment (50.7%), and 69 who were juniors (49.3%). There are 67 participants who identify as Asian (47.9%), 22 who identify as Latino/a (15.7%), 18 participants who identify as White (12.9%), and 33 who identify as mixed or other ethnicity (23.6%). There are 33 participants who are first generation in the United States (23.6%), 83 who are second generation (59.2%), and 24 who are third or greater generation (17.1%). There are 43 participants whose parents did not attend university (30.7%). The average self-reported family-of-origin SES reported by participants in the study is 5.63 (SD=1.80) on a 10-point scale.

Over the course of the study, 71 participants (50.7%) dropped out of the study or had incomplete data on the study variables of interest. Attrition analyses are conducted to compare the demographics of participants who dropped out of the study or had incomplete data versus those participants who had complete data across the study time frame. Attrition analyses indicate that participants who are female and of a younger age are more likely to have complete data across all assessments. No other demographic characteristics are found to have differing rates of participant attrition.

Study 1: Measures

Just World Beliefs. The just world beliefs scale reflects participants' beliefs regarding how fair the world is for people in general (Dalbert, 1999). Participants respond to each item in the scale with 1 = *strongly disagree* and 6 = *strongly agree*. The scale contains two items (r = .70); "I think that basically the world is a just place" and "I believe that, by and large, people get what they deserve."

Societal Beliefs: Social Status Causation. Societal beliefs for social status causation are measured using a modified version of a scale developed by Smith and Stone (1989). The scale includes items regarding why people have attained a high social status in American society. Participants respond to each item in the scale with 1 = *strongly disagree* and 6 = *strongly agree*. The measure includes a three-item *Merit* subscale (α = .76), which includes the items "People at the top of the social status ladder in America are there because they…" (1) "have the talent and the ability to succeed," (2) "possess drive and perseverance," and (3) "are hard-working." The measure also includes a three-item *Privilege* subscale (α = .67), which includes the items "People at the top of the social status ladder in America are there because they…" (1) "receive large

inheritances," (2) "receive favoritism in hiring, promotions and wages," and (3) "are lucky and get breaks."

Personal Agency Beliefs: Social Status Causation. Personal agency beliefs are measured using a modified version of a scale used earlier in our research program (Shane, Heckhausen, Lessard, Chen & Greenberger, 2012; Shane & Heckhausen, 2013), and based on the CAM-I (Skinner, Chapman & Baltes, 1998). Participants respond to each item in the scale with 1 = *strongly disagree* and 6 = *strongly agree*. The scale contains two subscales, a four-item *Merit* subscale (α = .77); (e.g., "My work ethic will determine how far up the social status ladder I move," and "I have the ability to be able to move up the social status ladder"), and a two-item luck subscale (*r* = .77); (e.g., "How far up the social status ladder I move will be determined mostly by chance"). The personal agency-luck subscale was not measured at Wave 3.

Career-Related Goal Engagement and Goal Disengagement Strategies. Career-related goal engagement and goal disengagement strategies are measured using a career-related version of the optimization in primary and secondary control scale (OPS) (Heckhausen, Wrosch & Schulz, 1998). The career OPS has an eleven-item career goal engagement subscale (α = .87) consisting of four selective primary control items (e.g., "I will work hard to have a good career"), four selective secondary control items (e.g., "I often remind myself how important it is for my future to have a good career"), and three compensatory primary control items (e.g., "If my career path is not going in the right direction, I will get help from others"). The career OPS scale also has a four-item career goal disengagement subscale (α = .69), consisting of four compensatory secondary control items (e.g., "If I cannot attain my desired career, I will settle for the next best option").

Career Development. Career development items include single item questions related to participants' perceived expectancy of attaining their career goal ("How likely do you think it is that you will attain this career goal?" with 1 = *not at all likely* and 4 = *very likely*), perceived value of their career goal ("How important is it for you to attain this career goal?" with 1 = *not at all important* and 4 = *very important*), and satisfaction with current progress toward attaining their career goal ("How satisfied are you with your current progress toward your career goal?" with 1 = *not at all satisfied* and 4 = *very satisfied*).

Subjective Socioeconomic Status. Subjective socioeconomic status is measured using family-of-origin ("past"), and expected personal attainment in 10 years ("future") versions of the subjective socioeconomic status ladder (Adler, Epel, Castellazzo & Ickovics, 2000; Shane & Heckhausen, 2013). Each item includes a picture of a 10-rung ladder that is meant to depict levels of SES attainment in America, and participants are asked to indicate where on the ladder they (or their family-of-origin) are with respect to the following frame of reference. "At the top of the ladder are the people who are the best off… they have the most money, the highest amount of schooling, and the jobs that bring the most respect. At the bottom of the ladder are the people who are the worst off… they have the least money, little or no education, no jobs or jobs that no one wants or respects." The family-of-origin item asks participants to indicate where on the ladder their family-of-origin would be, and the expected personal attainment item asks participants to indicate where they perceive they will personally be on the ladder in 10 years.

Demographics. Participant's age, gender, ethnicity, generational status, and whether or not their parents attended university are measured and controlled for in the analyses. Due to small numbers in some of the categories, ethnicity was coded as Asian, Latino/a, White, and Mixed/Other for analyses.

Study 1: Plan for Data Analysis

Data are primarily analyzed using a growth curve multilevel modeling approach. This approach was chosen after exploration of alternate analytic techniques and a careful consideration of the pros and cons of these approaches. Namely, structural equation modeling approaches (e.g., latent change score analyses, latent growth curve analyses, cross-lagged analyses, and bivariate autoregessive latent trajectory models) were considered but not performed due to the complexity of adding large numbers of covariates to each model. If the models were simplified (e.g., just looking at the relationship between personal agency beliefs and motivational strategies), these analytic techniques would have been preferred as they allow for a more detailed examination of directions of influence among variables. Additionally, lagged-response analyses using a multilevel modeling framework were considered but not performed as it requires the loss of at least one wave of data. If there were more waves of data collected, this analytic technique would also provide a more detailed examination of directions of influence among variables. Similarly, two-stage least-squares instrumental analyses were considered for its ability to handle endogenous covariates, however, this too was not performed as it requires the loss of at least one wave of data. Thus, a growth curve multilevel modeling approach was chosen for its ability to use all of the data available, easily assess multiple covariates simultaneously, and examine inter-individual and intra-individual relationships between the variables of interest. However, the downside of this approach is that it does not address issues of endogeneity (e.g., directions of influence between variables), and as such the results do not provide statistical evidence of causality.

Descriptive analyses. Means and standard deviations are calculated for the main study variables at each wave in the study. Following this, correlations between the main study

variables are calculated within each wave in the study. Next, correlations within the main study variables across waves are calculated to indicate relative levels of stability across the study timeframe. To examine Research Question 1, paired-sample *t*-tests are used to assess mean level differences in participants' perceptions of social mobility and their endorsement of societal and personal agency beliefs for socioeconomic status attainment. Finally, demographic differences in participants' just world beliefs, societal beliefs and personal agency beliefs for socioeconomic status attainment are examined using independent sample *t*-tests (for gender), ANOVA with Bonferroni-corrected comparisons (for ethnicity), and correlations (for family-of-origin SES and age).

Model testing. To examine the remainder of the study hypotheses, the data are analyzed using multilevel modeling (Fitzmaurice, Laird & Ware, 2011; Rabe-Hesketh & Skrondal, 2012; Singer & Willett, 2003) in Stata. Data have a two-level hierarchical structure, wherein survey responses (level 1) are nested within participants (level 2). Due to the initial sample being comprised of half juniors and half seniors, year in school is used as the time variable when organizing the data into long format. This results in six time-points; Fall quarter Junior year, Spring quarter Junior year, Fall quarter Senior year, Spring quarter Senior year, Fall after graduation, and Spring after graduation. However, four observations are the most that any given participant contributes to the analyses. To aid interpretation of results, all continuous independent variables are grand-mean centered. This means that coefficients can be interpreted as the relationship between the predictor variable and the dependent variable at the mean level of other continuous covariates in the model.

Model testing proceeds in a step-wise fashion, guided by the hypothesized model presented in Figure 2. In addition, more complex models are nested within the baseline model to

enable the comparison of the variance explained between models and changes in model fit as measured by the models' deviance, AIC, and BIC. Nesting the models requires the sample be the same across models, which in some cases results in a restricted sample. Variance components and fit statistics are not presented for the models where predictors are assessed independently (Models 2 and 5). Thus, Models 2 and 5 are not nested in Model 1, allowing them to contain non-restricted samples. A total of six multilevel models are run for each dependent variable.

The first three models are means models. Model 1 is an unconditional means model, wherein the dependent variable is analyzed without independent variables. Model 1 serves the purpose of establishing a baseline intercept, as well as within- and between-person sources of variance. Next, Model 2 consists of separate conditional means models depicting the individual relationships of each independent variable with the dependent variable. Model 2 serves the purpose of establishing the independent relationships between the independent variables and the dependent variable intercept. Next, Model 3 consists of a single conditional means model, wherein all the independent variables are included simultaneously as predictors of the dependent variable. Model 3 serves the purpose of establishing the relationships between the independent variables and the dependent variables while controlling for the effects of the other covariates in the model.

The last three models include time, and as such are growth models. Model 4 consists of an unconditional growth model, wherein the dependent variable is analyzed without the independent variables but with the fixed and random effects of time. Model 4 serves the purpose of establishing the dependent variable's slope and the variance in the dependent variable's slope. Next, Model 5 consists of separate conditional growth models depicting the relationship of each independent variable with the dependent variable's slope. Model 5 serves the purpose of

establishing the independent relationships between the independent variables and the dependent variable's slope. Finally, Model 6 consists of a single conditional growth model, wherein all the independent variables are included simultaneously as predictors of the dependent variable's slope. Model 6 serves the purpose of establishing the relationships between the independent variables and the dependent variable's slope while controlling for the effects of the other covariates in the model.

Models are assessed for their fit to the data using the model's deviance, AIC, and BIC. When assessing subsequent models, decreases in the model's deviance indicate that the model explains more of the dependent variable's variance. Decreases in the AIC and BIC indicate that the model fits the data better, while adjusting for the amount of predictors present in the model. In addition, multilevel modeling partitions the variance into within- and between-person variance, and in the case of the growth models, the variance of the dependent variable's slope. These variance estimates allow another source of model comparison, wherein preferred models have the smallest variance components and thus explain the most amount of variance. While model fit indices are examined, of more interest to the present study are the individual predictors' coefficients. These are present in models 2, 3, 5, and 6 and are used to assess the study hypotheses predicting relationships between the variables of interest independently (models 2 and 5) and while controlling for the effects of the other covariates in the model (models 3 and 6). The means models (2 and 3) are best interpreted as the average relationship between the independent and dependent variables intercept. The growth models (5 and 6) are best interpreted as the relationship between the independent variables' intercepts and the dependent variable's slope.

After running each set of models, participants' gender, ethnicity, age, family-of-origin SES and generational status are assessed as moderators on the association between the main predictor variable and slope of the dependent variable.

Study 1: Results

Descriptive Analyses

Correlation analyses are conducted for the time-varying covariates of central interest in the study. Correlations across constructs within each wave are presented in Tables 1-4, with the respective constructs' means and standard deviations also provided. Correlations across waves within each construct are presented in Table 5.

As seen in Tables 1, 2, 3, and 4, the relationships among belief systems and motivational strategies generally fall into two groupings. The first grouping emphasizes controllable beliefs (e.g., merit) and career-related goal engagement strategies. The second grouping emphasizes uncontrollable beliefs (e.g., privilege and luck) and career-related goal disengagement strategies. This pattern is in line with expectations, and provides some support for the study hypotheses and justification for the more detailed model testing that follows. As seen in Table 5, most constructs are relatively stable across the study, with declines in the strength of correlation observed with increasing time lags (e.g., 1 wave difference versus a 3 wave difference). This pattern provides support for examining the longitudinal nature of the data in further detail using growth curve multilevel modeling.

Table 1
Study 1 Wave 1 constructs: means, standard deviations and correlations.

	n	M (SD)	1	2	3	4	5	6	7	8	9	10
Just World Beliefs	140	3.38 (1.17)	1									
SB: Merit	140	4.75 (.81)	.30 *	1								
SB: Privilege	140	4.03 (.98)	.03	-.06	1							
PA: Merit	134	4.98 (.68)	.27*	.39*	-.16	1						
PA: Luck	134	2.98 (1.23)	.20*	-.07	.30*	-.04	1					
Career Goal Engagement	140	5.22 (.49)	.07	.38*	-.04	.56*	-.15	1				
Career Goal Disengagement	140	3.35 (.85)	-.05	-.06	.17*	-.13	.16	-.07	1			
Career goal expectancy	135	3.43 (.54)	.00	.15	-.10	.20*	-.07	.35*	-.17*	1		
Career Value	136	3.80 (.44)	.03	.11	-.04	.11	.03	.27*	-.24*	.37*	1	
Career Satisfaction	139	2.91 (.80)	-.02	.02	-.09	.15	-.07	.29*	.04	.33*	.00	1

Notes: SB = societal beliefs and PA = personal agency beliefs. * $p < .05$

Table 2

Study 1 Wave 2 constructs: means, standard deviations and correlations.

	n	M (SD)	1	2	3	4	5	6	7	8	9	10
Just World Beliefs	103	3.76 (1.07)	1									
SB: Merit	103	4.61 (.81)	.31 *	1								
SB: Privilege	103	4.05 (1.04)	-.11	-.05	1							
PA: Merit	103	4.90 (.68)	.13	.32*	-.09	1						
PA: Luck	103	3.27 (1.23)	.20*	-.04	.30*	.14	1					
Career Goal Engagement	106	5.20 (.55)	-.01	.32*	-.15	.58*	-.07	1				
Career Goal Disengagement	106	3.50 (.88)	.04	-.14	.28*	-.06	.38*	-.16	1			
Career Goal Expectancy	108	3.28 (.64)	.33*	.18	-.17	.38*	.09	.38*	-.10	1		
Career Goal Value	108	3.68 (.51)	.15	.14	-.32*	.25*	-.04	.29*	-.26*	.31*	1	
Career Goal Satisfaction	102	2.83 (.85)	.23*	.10	-.02	.39*	.06	.36*	.08	.46*	.03	1

Notes: SB = societal beliefs and PA = personal agency beliefs. * $p < .05$

Table 3
Study 1 Wave 3 constructs: means, standard deviations and correlations.

	n	M (SD)	1	2	3	4	5	6	7	8	9
Just World Beliefs	85	3.65 (1.07)	1								
SB: Merit	85	4.44 (.78)	.24*	1							
SB: Privilege	85	4.15 (.99)	-.04	.01	1						
PA: Merit	85	4.74 (.75)	.11	.49*	.05	1					
Career Goal Engagement	88	5.08 (.60)	.07	.33*	-.02	.58*	1				
Career Goal Disengagement	88	3.44 (.91)	.25*	-.02	.44*	-.07	-.11	1			
Career Goal Expectancy	88	3.38 (.65)	.06	.32*	-.20	.41*	.38*	-.27*	1		
Career Goal Value	88	3.69 (.53)	.23*	.28*	-.25*	.39*	.35*	-.19	.60*	1	
Career Goal Satisfaction	84	2.76 (.89)	.37*	.23*	-.07	.21	.24*	.06	.32*	.21	1

Notes: SB = societal beliefs and PA = personal agency beliefs. Luck-oriented personal agency beliefs are not measured at Wave 3.
* $p < .05$

Table 4

Study 1 Wave 4 constructs: means, standard deviations and correlations.

	n	M (SD)	1	2	3	4	5	6	7	8	9	10
Just World Beliefs	68	3.60 (1.02)	1									
SB: Merit	68	4.68 (.73)	.11	1								
SB: Privilege	68	4.07 (.89)	.06	-.08	1							
PA: Merit	69	4.82 (.65)	.18	.61*	-.01	1						
PA: Luck	69	3.49 (1.06)	.14	-.07	.46*	-.10	1					
Career Goal Engagement	70	5.12 (.59)	.17	.48*	.04	.67*	-.15	1				
Career Goal Disengagement	70	3.25 (.96)	.27*	-.12	.44*	-.13	.53*	-.20	1			
Career Goal Expectancy	71	3.32 (.63)	.20	.16	-.09	.43*	-.32*	.44*	-.21	1		
Career Goal Value	71	3.61 (.52)	.24*	.17	-.19	.41*	-.27*	.47*	-.26*	.48*	1	
Career Goal Satisfaction	71	2.69 (.96)	.29*	.25*	-.18	.34*	-.15	.26*	-.13	.45*	.18	1

Notes: SB = societal beliefs and PA = personal agency beliefs. * $p < .05$

Table 5
Study 1 within-construct correlations across waves.

	Waves 1-2	Waves 1-3	Waves 1-4	Waves 2-3	Waves 2-4	Waves 3-4
Just World Beliefs	.27*	.38*	.28*	.50*	.32*	.46*
SB: Merit	.55*	.37*	.35*	.40*	.42*	.60*
SB: Privilege	.45*	.50*	.21	.64*	.41*	.47*
PA: Merit	.49*	.50*	.42*	.53*	.48*	.52*
PA: Luck	.50*		.17		.24	
Career Goal Engagement	.66*	.58*	.59*	.62*	.65*	.52*
Career Goal Disengagement	.53*	.51*	.59*	.63*	.60*	.75*
Career Goal Expectancy	.46*	.52*	.34*	.37*	.43*	.51*
Career Goal Value	.33*	.35*	.30*	.56*	.48*	.56*
Career Goal Satisfaction	.49*	.37*	.30*	.51*	.40*	.43*

Notes: SB = societal beliefs and PA = personal agency beliefs. Luck-oriented personal agency beliefs are not measured at Wave 3.
* $p < .0$

Research Question 1: How do young adults believe that socioeconomic status is attained in America for people in general, and for themselves personally? *Hypothesis 1: Beliefs about socioeconomic status attainment in America will reflect the dominant ideology of American society.* Hypotheses 1a, 1b, and 1c are assessed using paired sample *t*-tests at each wave in the study. The results of these analyses are discussed below.

Hypothesis 1a: Individuals are expected to believe that they will attain a higher socioeconomic status in the future than their family-of-origin has (upward intergenerational social mobility). Supporting Hypothesis 1a, the results indicate that participants expect to attain a significantly higher SES than their family-of-origin at each wave in the study (Wave 1 t (138) = 10.71, $p < .001$; Wave 2 t (100) = 8.89, $p < .001$; Wave 3 t (84) = 8.03, $p < .001$; Wave 4 t (70) = 9.84, $p < .001$).

Hypothesis 1b: Individuals are expected to endorse meritocratic causal factors as the primary reason why other people have attained a high socioeconomic status in America. Supporting Hypothesis 1b, participants are significantly more likely to endorse merit-oriented causes over privilege-oriented causes for why individuals attain social status in America at each wave in the study (Wave 1 t (139) = 6.53, $p < .001$; Wave 2 t (102) = 4.26, $p < .001$; Wave 3 t (84) = 2.17, $p < .05$; Wave 4 t (67) = 4.19, $p < .001$).

Hypothesis 1c: Individuals are expected to endorse meritocratic causal factors as the primary reason why they themselves will attain their future social status. Supporting Hypothesis 1c, participants are significantly more likely to endorse merit-oriented causes over luck-oriented causes for how they themselves will attain their future social status at each wave in the study (Wave 1 t (133) = 16.17, $p < .001$; Wave 2 t (102) = 12.49, $p < .001$; Wave 4 t (68) = 8.56, $p < .001$).

Collectively these results provide strong support for Hypothesis 1, and indicate that young adults' beliefs about social mobility and socioeconomic status attainment are largely consistent with the dominant American ideology of intergenerational upward social mobility attained primarily through individual merit.

Next, demographic differences (gender, age, ethnicity, and family-of-origin SES) in participants' just world beliefs, societal beliefs, and personal agency beliefs are examined. The results indicate that men are significantly more likely to endorse luck-oriented personal agency beliefs than women at Wave 1. No other gender differences are observed. Regarding ethnic differences, the results indicate that Latino/a participants report significantly lower privilege-oriented societal beliefs than Asian participants at Wave 3. In addition, the results indicate that Asian participants report significantly lower merit-oriented personal agency beliefs than participants of mixed/other ethnicity at Wave 1. Individuals of Asian ethnicity also report significantly higher luck-oriented personal agency beliefs than participants of White ethnicity at Wave 1. No other ethnic differences are observed. There are significant positive associations between participants' family-of-origin SES and their merit-oriented societal beliefs at Wave 1, and just world beliefs at Wave 3. No other family-of-origin SES differences are observed. No age differences are observed.

Model Testing

Research Question 2: How are young adults' beliefs about the fairness of the world related to their beliefs about how socioeconomic status is attained by other people in American society, and how are these beliefs subsequently related with the factors they identify as causal to their own socioeconomic status attainment?

Hypothesis 2a: Young adults whose family has a higher socioeconomic status will be more likely to believe that the world is fair and just.

Model testing is performed in the sequence described in the plan for analyses section on page 39. The results are discussed below, and presented in Table 6.

Although participant demographics explain some of the between-person variance in individuals' beliefs that the world is just, no individual predictors are significant. This includes participants' family-of-origin SES. Thus, Hypothesis 2a is not supported. There are no interactions between the main hypothesized predictor (family-of-origin SES) and gender, ethnicity, age, or generational status.

Table 6
Results of multilevel model analyses predicting participants' just world beliefs.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	3.56 (.07)*	Varies	3.79 (.25)*	3.56 (.07)*	Varies	3.81 (.25)*
Slope				.05 (.04)	Varies	-.01 (.13)
Family-of-origin SES [a]		.03 (.03)	.04 (.04)		.03 (.03)	.04 (.04)
Female		-.22 (.17)	-.16 (.17)		-.23 (.17)	-.17 (.17)
Age [a]		.03 (.03)	.03 (.03)		.03 (.03)	.03 (.03)
Ethnicity (White reference group)						
Latino/a		-.15 (.28)	.08 (.33)		-.17 (.28)	.06 (.34)
Asian		-.21 (.23)	.04 (.29)		-.22 (.23)	.06 (.30)
Mixed / Other		-.15 (.26)	.10 (.29)		-.17 (.26)	.10 (.30)
Generational Status (3rd + generation reference group)						
1st generation		-.14 (.23)	-.16 (.28)		-.14 (.23)	-.18 (.29)
2nd generation		-.30 (.20)	-.30 (.25)		-.32 (.20)	-.32 (.26)
Parents did not attend University		.10 (.16)	.16 (.18)		.09 (.16)	.16 (.18)
Fixed Effects - Slope						

Family-of-origin SES [a]					.01 (.02)	.01 (.02)
Female					.04 (.09)	.03 (.09)
Age [a]					-.01 (.02)	-.01 (.02)
Ethnicity (White reference group)						
Latino/a					.08 (.14)	.11 (.17)
Asian					-.02 (.12)	-.07 (.15)
Mixed / Other					.06 (.13)	-.00 (.15)
Generational Status (3rd + generation reference group)						
1st generation					.05 (.12)	.13 (.14)
2nd generation					.03 (.10)	.07 (.13)
Parents did not attend University					-.02 (.08)	-.03 (.09)
Random Effects						
Variance Slope				.00 (.00)	Varies	.00 (.00)
Between-person variance	.44 (.10)	Varies	.40 (.09)	.45 (.10)	Varies	.43 (.10)
Within-person variance	.80 (.07)	Varies	.80 (.07)	.79 (.07)	Varies	.77 (.07)
Model Fit Statistics						
Deviance	1151.55	Varies	1145.16	1149.50	Varies	1139.83
AIC	1157.55	Varies	1169.16	1161.50	Varies	1187.83
BIC	1169.48	Varies	1216.85	1185.35	Varies	1283.21
Participants	140	140	140	140	140	140
Observations	393	393	393	393	393	393

Notes: [a] Grand-mean centered. Predictors entered individually in Models 2 and 5. * $p < .05$.

Hypothesis 2b: Perceptions that society is fair and just will be positively associated with young adults' endorsement of merit-oriented societal beliefs for socioeconomic status attainment. Conversely, perceptions that society is unfair and unjust will be positively associated with individuals' endorsement of privilege/fatalistic-oriented societal beliefs for socioeconomic status attainment.

Model testing is performed in the sequence described in the plan for analyses section on page 39. The results are discussed below, and presented in Tables 7 and 8.

Regarding merit-oriented societal beliefs (Table 7), there is a significant positive relationship between participants' beliefs that the world is just and their beliefs that individuals attain social status in America through merit (B = .15 (.03), p < .05). Of additional interest is a significant positive association between participants' family-of-origin SES and their merit-oriented societal beliefs. However, this association becomes non-significant when controlling for the other covariates in the model.

Regarding privilege-oriented societal beliefs (Table 8), adding the independent variables to the model explains some between-person variance in participants' privilege-oriented societal beliefs. However, the relationship between participants' just world beliefs and their privilege-oriented societal beliefs is non-significant.

Regarding demographic factors, Model 6 indicates that women report marginally higher initial levels of merit-oriented societal beliefs, but significantly steeper declines in these beliefs over time. Similarly, first generation participants report marginally higher initial levels of privilege-oriented societal beliefs, but significantly steeper declines in these beliefs over time. In addition, Model 5 indicates that participants' from higher family-of-origin SES backgrounds report marginally lower initial levels of privilege-oriented societal beliefs, but steeper increases in these beliefs over time. This effect becomes non-significant when controlling for the other covariates (Model 6). None of these demographic differences are observed in the means models (Models 2 and 3), and they have different directions of association with the intercept and slope indicating a regression to the mean. There are no significant interactions between the main

hypothesized predictor (just world beliefs) and gender, ethnicity, age, family-of-origin SES, or generational status on the slope of participants' merit- or privilege-oriented societal beliefs.

Both sets of models indicate that some between-person variance, some within-person variance, and some variance in the slope of participants' personal agency beliefs is accounted for by the set of predictors in the model. Collectively the results provide moderate support for Hypothesis 2b, and indicate that participants who believe that the world is just are more likely to endorse merit-oriented societal beliefs but are not more likely to endorse privilege-oriented societal beliefs.

Table 7
Results of multilevel model analyses predicting participants' merit-oriented societal beliefs.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects: Intercept						
Intercept	4.63 (.05)*	Varies	4.55 (.17)*	4.63 (.05)*	Varies	4.51 (.16)*
Slope				-.07 (.03)*	Varies	.00 (.09)
Just World Beliefs [a]		.14 (.03)*	.15 (.03)*		.15 (.03)*	.16 (.03)*
Family-of-origin SES [a]		.05 (.02)*	.04 (.03)		.05 (.02)	.04 (.02)
Female		.10 (.12)	.11 (.11)		.11 (.12)	.16 (.11)
Age [a]		-.02 (.02)	-.00 (.02)		-.02 (.02)	.01 (.02)
Ethnicity (White reference group)						
Latino/a		-.09 (.20)	-.05 (.23)		-.11 (.20)	-.15 (.22)
Asian		-.06 (.17)	.01 (.20)		-.07 (.17)	-.03 (.19)
Mixed / Other		.15 (.19)	.14 (.20)		.12 (.19)	.10 (.19)
Generational Status (3rd + generation reference group)						
1st generation		-.27 (.17)	-.24 (.19)		-.27 (.17)	-.26 (.19)
2nd generation		.02 (.15)	.09 (.17)		.04 (.15)	.12 (.17)
Parents did not attend University		-.11 (.12)	-.05 (.12)		-.07 (.12)	.05 (.11)

Fixed Effects: Slope						
Just World Beliefs [a]					.01 (.02)	-.00 (.02)
Family-of-origin SES [a]					-.00 (.01)	-.01 (.02)
Female					-.10 (.07)	-.13 (.07)*
Age [a]					-.00 (.01)	-.01 (.01)
Ethnicity (White reference group)						
Latino/a					-.08 (.11)	-.08 (.12)
Asian					-.00 (.09)	-.03 (.11)
Mixed / Other					-.06 (.10)	-.07 (.11)
Generational Status (3rd + generation reference group)						
1st generation					.13 (.09)	.17 (.10)
2nd generation					.00 (.08)	.04 (.09)
Parents did not attend University					-.05 (.06)	-.04 (.07)
Random Effects						
Variance Slope				.03 (.01)	Varies	.02 (.01)
Between-person variance	.26 (.05)	Varies	.19 (.04)	.27 (.05)	Varies	.17 (.04)
Within-person variance	.37 (.04)	Varies	.36 (.03)	.31 (.03)	Varies	.31 (.03)
Model Fit Statistics						
Deviance	866.34	Varies	835.40	854.48	Varies	810.93
AIC	872.34	Varies	861.40	866.48	Varies	862.93
BIC	884.26	Varies	913.06	890.32	Varies	966.25
Participants	140	140	140	140	140	140
Observations	393	393	393	393	393	393

Notes: [a] Grand-mean centered. Predictors entered individually in Models 2 and 5. * $p < .05$.

Table 8

Results of multilevel model analyses predicting participants' privilege-oriented societal beliefs.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects: Intercept						
Intercept	4.06 (.07)*	Varies	4.12 (.22)*	4.06 (.07)*	Varies	4.13 (.23)*
Slope				.02 (.03)	Varies	.15 (.10)
Just World Beliefs [a]		-.02 (.04)	-.02 (.04)		-.02 (.04)	-.01 (.04)
Family-of-origin SES [a]		-.03 (.03)	-.04 (.03)		-.03 (.03)	-.04 (.03)
Female		.05 (.15)	.04 (.15)		.05 (.15)	.05 (.15)
Age [a]		-.02 (.03)	-.04 (.03)		-.03 (.03)	-.05 (.03)
Ethnicity (White reference group)						
Latino/a		-.26 (.25)	-.11 (.30)		-.02 (.31)	-.03 (.31)
Asian		.15 (.21)	.20 (.27)		.24 (.27)	.23 (.27)
Mixed / Other		-.12 (.23)	-.09 (.27)		-.08 (.27)	-.09 (.27)
Generational Status (3rd + generation reference group)						
1st generation		.20 (.22)	.08 (.26)		.16 (.22)	.05 (.26)
2nd generation		-.16 (.19)	-.27 (.23)		-.19 (.19)	-.32 (.23)
Parents did not attend University		-.07 (.15)	-.00 (.16)		-.07 (.15)	-.07 (.17)
Fixed Effects: Slope						
Just World Beliefs [a]					-.03 (.03)	-.04 (.03)
Family-of-origin SES [a]					.03 (.02)*	.03 (.02)
Female					-.02 (.08)	.04 (.08)
Age [a]					-.01 (.01)	.00 (.01)
Ethnicity (White reference group)						
Latino/a					-.01 (.14)	-.02 (.14)
Asian					.08 (.12)	.09 (.12)
Mixed / Other					-.02 (.12)	-.01 (.12)
Generational Status (3rd + generation reference group)						
1st generation					-.33 (.10)*	-.41 (.12)*

2nd generation					-.12 (.08)	-.19 (.10)
Parents did not attend University					-.03 (.07)	.06 (.08)
Random Effects						
Variance Slope				.02 (.02)	Varies	.00 (.02)
Between-person variance	.44 (.08)	Varies	.38 (.07)	.44 (.08)	Varies	.40 (.08)
Within-person variance	.52 (.05)	Varies	.52 (.05)	.49 (.05)	Varies	.48 (.05)
Model Fit Statistics						
Deviance	1023.55	Varies	1010.91	1021.75	Varies	990.94
AIC	1029.55	Varies	1036.91	1033.75	Varies	1042.94
BIC	1041.47	Varies	1088.57	1057.59	Varies	1146.25
Participants	140	140	140	140	140	140
Observations	393	393	393	393	393	393

Notes: [a] Grand-mean centered. Predictors entered individually in Models 2 and 5. * $p < .05$.

Hypothesis 2c: Personal agency beliefs for socioeconomic status attainment will reflect individuals' societal beliefs for socioeconomic status attainment. Personal agency beliefs regarding merit are expected to be endorsed by individuals who view socioeconomic status in America as being attained primarily through individual merit. Personal agency beliefs regarding luck are expected to be endorsed by individuals who view socioeconomic status in America as being primarily attained through unearned or fatalistic means.

Model testing is performed in the sequence described in the plan for analyses section on page 39. The results are discussed below, and presented in Tables 9 and 10.

Regarding merit-oriented personal agency beliefs (Table 9), there is a significant positive relationship between participants' merit-oriented personal agency beliefs and their beliefs that individuals attain social status in America through merit ($B = .33$ (.04), $p < .05$). The results also indicate that participants of Asian ethnicity report significantly lower merit-oriented personal agency beliefs than participants of White ethnicity, and participants whose parents did not attend

university report significantly higher merit-oriented personal agency beliefs. There are no significant interactions between the main hypothesized predictor (merit-oriented societal beliefs) and gender, ethnicity, age, family-of-origin SES, or generational status on the slope of participants' merit-oriented personal agency beliefs.

Regarding luck-oriented personal agency beliefs (Table 10), there is a significant positive relationship between participants' luck-oriented personal agency beliefs and their beliefs that individuals attain social status in America through privilege ($B = .33$ (.07), $p < .05$). The results also indicate that participants who were born in another country report significantly higher luck-oriented personal agency beliefs than participants who are 3rd generation or more. Participants of Asian ethnicity also report significantly higher luck-oriented personal agency beliefs; however, this relationship becomes non-significant when the other predictors are added to the model. In Model 6, women report marginally lower initial levels of luck-oriented personal agency beliefs, but significantly steeper increases in these beliefs over time. This gender difference is not observed in the means models (Models 2 and 3), and has different directions of association with the intercept and slope in Model 6 indicating a regression to the mean. However, there is a significant interaction between the main hypothesized predictor (privilege-oriented societal beliefs) and gender, indicating that at high levels of privilege-oriented societal beliefs women report steeper increases in their luck-oriented personal agency beliefs over time than men do. There are no significant interactions between privilege-oriented societal beliefs and ethnicity, age, family-of-origin SES, or generational status on the slope of participants' luck-oriented personal agency beliefs.

Participants' just world beliefs are significantly positively associated with both merit-oriented personal agency beliefs, and luck-oriented personal agency beliefs. Both sets of models

indicate that substantial between-person variance, some within-person variance, and some variance in the slope of personal agency beliefs is accounted for by the set of predictors in the model. Collectively the results provide strong support for Hypothesis 2c and indicate that participants who endorse merit-oriented societal beliefs are likely to endorse merit-oriented personal agency beliefs, and participants who endorse privilege-oriented societal beliefs are likely to endorse luck-oriented personal agency beliefs.

Table 9
Results of multilevel model analyses predicting participants' merit -oriented personal agency beliefs.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects: Intercept						
Intercept	4.88 (.05)*	Varies	5.01 (.13)*	4.89 (.05)	Varies	4.99 (.14)*
Slope				-.05 (.02)*	Varies	-.03 (.07)
Societal Beliefs: Merit [a]		.34 (.04)*	.33 (.04)*		.34 (.04)*	.30 (.04)*
Societal Beliefs: Privilege [a]		-.01 (.04)	.00 (.03)		-.01 (.04)	.00 (.03)
Just World Beliefs [a]		.10 (.03)*	.05 (.03)		.11 (.03)*	.06 (.03)*
Family-of-origin SES [a]		.02 (.02)	.02 (.02)		.02 (.02)	.02 (.02)
Female		-.08 (.11)	-.07 (.09)		-.07 (.11)	-.01 (.09)
Age [a]		.02 (.02)	.02 (.02)		.03 (.02)	.03 (.02)
Ethnicity (White reference group)						
Latino/a		-.07 (.17)	-.25 (.18)		-.05 (.18)	-.24 (.18)
Asian		-.44 (.15)*	-.48 (.16)*		-.43 (.15)*	-.45 (.16)*
Mixed / Other		-.03 (.16)	-.08 (.16)		-.02 (.16)	-.06 (.16)
Generational Status (3rd + generation reference group)						
1st generation		-.21 (.16)	.13 (.15)		-.20 (.16)	.07 (.16)
2nd generation		-.07 (.13)	.15 (.14)		-.04 (.14)	.13 (.14)
Parents did not attend University		.28 (.10)*	.28 (.10)*		.32 (.11)*	.31 (.10)*

Fixed Effects: Slope						
Societal Beliefs: Merit [a]					.02 (.02)	.03 (.03)
Societal Beliefs: Privilege [a]					-.01 (.02)	-.00 (.02)
Just World Beliefs [a]					-.01 (.02)	-.02 (.02)
Family-of-origin SES [a]					.02 (.01)	.02 (.01)
Female					-.04 (.05)	-.04 (.05)
Age [a]					-.01 (.01)	-.01 (.01)
Ethnicity (White reference group)						
Latino/a					-.04 (.09)	.11 (.09)
Asian					.05 (.07)	.12 (.08)
Mixed / Other					-.03 (.08)	.04 (.08)
Generational Status (3rd + generation reference group)						
1st generation					.03 (.07)	-.02 (.08)
2nd generation					-.05 (.06)	-.09 (.07)
Parents did not attend University					-.08 (.05)	-.01 (.05)
Random Effects						
Variance Slope				.01 (.01)	Varies	.00 (.00)
Between-person variance	.24 (.04)	Varies	.12 (.03)	.24 (.04)	Varies	.13 (.03)
Within-person variance	.25 (.02)	Varies	.22 (.02)	.23 (.02)	Varies	.21 (.02)
Model Fit Statistics						
Deviance	737.06	Varies	635.52	731.39	Varies	623.12
AIC	743.06	Varies	665.52	741.39	Varies	683.12
BIC	754.93	Varies	724.90	761.14	Varies	801.88
Participants	140	140	140	140	140	140
Observations	387	Varies	387	387	Varies	387

Notes: [a] Grand-mean centered. Predictors entered individually in Models 2 and 5. * $p < .05$.

Table 10
Results of multilevel model analyses predicting participants' luck -oriented personal agency beliefs.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects: Intercept						
Intercept	3.20 (.08)*	Varies	2.94 (.23)*	3.23 (.09)*	Varies	3.05 (.25)*
Slope				.18 (.05)*	Varies	.24 (.14)
Societal Beliefs: Merit [a]		-.08 (.09)	-.10 (.09)		-.02 (.09)	-.04 (.09)
Societal Beliefs: Privilege [a]		.37 (.07)*	.33 (.07)*		.33 (.07)*	.28 (.06)*
Just World Beliefs [a]		.23 (.06)*	.25 (.06)*		.22 (.06)*	.23 (.06)*
Family-of-origin SES [a]		-.04 (.04)	-.04 (.04)		-.01 (.04)	-.02 (.04)
Female		-.26 (.18)	-.27 (.16)		-.28 (.19)	-.29 (.17)
Age [a]		-.03 (.03)	-.05 (.03)		-.04 (.03)	-.07 (.03)*
Ethnicity (White reference group)						
Latino/a		.13 (.30)	.08 (.32)		.08 (.31)	.12 (.34)
Asian		.70 (.25)*	.34 (.28)		.62 (.26)*	.30 (.29)
Mixed / Other		.25 (.28)	.10 (.28)		.15 (.29)	-.02 (.29)
Generational Status (3rd + generation reference group)						
1st generation		.77 (.25)*	.56 (.26)*		.75 (.26)*	.66 (.28)*
2nd generation		.28 (.22)	.27 (.24)		.21 (.22)	.22 (.26)
Parents did not attend University		-.09 (.18)	-.12 (.17)		-.17 (.18)	-.21 (.18)
Fixed Effects: Slope						
Societal Beliefs: Merit [a]					-.02 (.06)	-.03 (.05)
Societal Beliefs: Privilege [a]					.05 (.04)	.05 (.04)
Just World Beliefs [a]					-.03 (.04)	.01 (.04)
Family-of-origin SES [a]					.02 (.02)	.02 (.02)
Female					.10 (.11)	.20 (.10)*
Age [a]					.00 (.02)	.02 (.02)
Ethnicity (White reference group)						
Latino/a					-.25 (.17)	-.21 (.19)

Asian					-.22 (.15)	-.15 (.16)
Mixed / Other					-.20 (.16)	-.17 (.16)
Generational Status (3rd + generation reference group)						
1st generation					-.19 (.14)	-.16 (.16)
2nd generation					-.15 (.12)	-.12 (.14)
Parents did not attend University					-.01 (.10)	.09 (.10)
Random Effects						
Variance Slope				.06 (.03)	Varies	.03 (.03)
Between-person variance	.46 (.13)	Varies	.20 (.09)	.61 (.14)	Varies	.33 (.10)
Within-person variance	.99 (.11)	Varies	.92 (.10)	.71 (.11)	Varies	.69 (.10)
Model Fit Statistics						
Deviance	950.61	Varies	886.28	929.61	Varies	862.06
AIC	956.61	Varies	916.28	941.61	Varies	922.06
BIC	967.75	Varies	971.98	963.89	Varies	1033.47
Participants	140	140	140	140	140	140
Observations	303	Varies	303	303	Varies	303

Notes: [a] Grand-mean centered. Predictors entered individually in Models 2 and 5. * $p < .05$.

Research Question 3: How do young adults' beliefs about socioeconomic status attainment relate to their engagement with career-related goals?

Hypothesis 3a: Belief systems that emphasize personal control (e.g., merit) will be positively related to career-related goal engagement strategies.

Hypothesis 3b: Conversely, belief systems that emphasize a lack of personal control over socioeconomic status attainment (e.g., luck) will be positively related to career-related goal disengagement.

Model testing is performed in the sequence described in the plan for analyses section on page 39. The results are discussed below, and presented in Tables 11 and 12.

Regarding participants' career-related goal engagement strategies (Table 11), merit-oriented personal agency beliefs (B = .31 (.04), p < .05), and merit-oriented societal beliefs (B = .12 (.03), p < .05), are significantly positively associated with participants' career-related goal engagement strategies. Additionally, luck-oriented personal agency beliefs are significantly negatively associated with participants' career-related goal engagement strategies (B = -.04 (.02), p < .05). Furthermore, there is a significant interaction between participants' merit-oriented personal agency beliefs and the slope of their career goal engagement (B = .07 (.03), p < .05). The interaction is presented in Figure 3, and indicates that participants with higher merit-oriented personal agency beliefs reported steeper increases in their career-related goal engagement over time.

Regarding demographic differences, the results also indicate that older participants are more engaged with their career goals. The results also indicate that participants whose parents did not attend university are more engaged with their career goals; however, this relationship becomes non-significant when the other predictors are added to the model. In Model 5, the results indicate that participants of Latino/a ethnicity report significantly higher levels of career-related goal engagement than participants of White ethnicity; however, this relationship becomes non-significant when the other predictors are added to the model. In Model 6, the results indicate that first generation participants report marginally lower initial levels of career-related goal engagement, and significantly steeper declines in their career-related goal engagement over time. Finally, there is a significant interaction between the main hypothesized predictor (merit-oriented personal agency beliefs) and age, indicating that at low levels of merit-oriented personal agency beliefs younger participants report steeper decreases in their career-related goal engagement over time than older participants do. There are no significant interactions between merit-oriented

personal agency beliefs and gender, ethnicity, family-of-origin SES, or generational status on the slope of participants' career-related goal engagement.

Regarding participants' career-related goal disengagement strategies (Table 12), luck-oriented personal agency beliefs (B = .14 (.04), p < .05), and privilege-oriented societal beliefs (B = .10 (.05), p < .05), are significantly positively associated with participants' career-related goal disengagement strategies. In addition, there is a significant interaction between participants' luck-oriented personal agency beliefs and the slope of their career-related goal disengagement (B = .07 (.03), p < .05). The interaction is presented in Figure 4, and indicates that participants with higher luck-oriented personal agency beliefs report steeper increases in their career-related goal disengagement over time. Similarly, there is also a significant interaction between participants' privilege-oriented societal agency beliefs and the slope of their career-related goal disengagement indicating that participants with higher privilege-oriented societal beliefs report steeper increases in their career-related goal disengagement over time. However, this interaction becomes non-significant when the other predictors are added to the model.

Regarding demographic differences, Models 3 and 6 indicate that participants of Asian ethnicity report significantly higher levels of career-related goal disengagement than White participants. Model 5 indicates that participants from higher SES families report marginally higher levels of career-related goal disengagement, and steeper increases in goal disengagement over time; however, this relationship becomes non-significant when controlling for the other predictors in the model. There are no significant interactions between the main predictor (luck-oriented personal agency beliefs) and gender, age, ethnicity, family-of-origin SES, or generational status on the slope of participants' career-related goal disengagement.

Both sets of models indicate that substantial between-person variance, some within-person variance, and some variance in the slope of career-related motivational strategies is accounted for by the set of predictors in the model. Collectively the results provide strong support for Hypothesis 3a, and indicate that merit-oriented beliefs are associated with career-related goal engagement. Additionally, the results provide strong support for Hypothesis 3b, indicating that privilege and luck-oriented beliefs are associated with career-related goal disengagement.

As it can be expected that personal agency beliefs and career-related motivational strategies are reciprocally related with one another, the predictors and dependent variables were reversed and analyzed using multilevel modeling with the same strategy as described in the plan for data analysis section on page 39. The results are not presented in detail here, but can be found in Appendix A. The findings of the reverse-direction modeling are consistent with the previously described relationships. More specifically, the results indicate that individuals who are highly engaged with their career goals report higher levels of merit-oriented personal agency beliefs and lower levels of luck-oriented personal agency beliefs. Whereas individuals who disengage from their career goals report higher levels of luck-oriented personal agency beliefs, and steeper increases in these beliefs over time. These findings provide further support for Hypotheses 3a and 3b that merit-oriented beliefs are associated with career-related goal engagement, while privilege and luck-oriented beliefs are associated with career-related goal disengagement.

Table 11
Results of multilevel model analyses predicting participants' career-related goal engagement.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects: Intercept						
Intercept	5.19 (.04)*	Varies	5.01 (.10)*	5.18 (.04)*	Varies	5.02 (.10)*
Slope				-.04 (.02)*	Varies	.01 (.05)
PA Beliefs: Merit [a]		.37 (.03)*	.31 (.04)*		.36 (.03)*	.33 (.04)*
PA Beliefs: Luck [a]		-.06 (.02)*	-.04 (.02)*		-.04 (.02)	-.04 (.02)*
Societal Beliefs: Merit [a]		.20 (.03)*	.12 (.03)*		.19 (.03)*	.11 (.03)*
Societal Beliefs: Privilege [a]		.00 (.03)	.04 (.02)		.01 (.03)	.04 (.02)
Just World Beliefs [a]		.01 (.02)	-.02 (.02)		.01 (.02)	-.02 (.02)
Family-of-origin SES [a]		.01 (.02)	.02 (.02)		.01 (.02)	.02 (.02)
Female		.03 (.09)	.09 (.07)		.03 (.08)	.06 (.07)
Age [a]		.03 (.02)	.03 (.01)*		.03 (.02)	.03 (.01)*
Ethnicity (White reference group)						
Latino/a		.28 (.14)	.08 (.13)		.30 (.15)*	.09 (.13)
Asian		-.08 (.12)	-.03 (.12)		-.07 (.12)	-.04 (.12)
Mixed / Other		.17 (.13)	.06 (.12)		.19 (.13)	.04 (.12)
Generational Status (3rd + generation reference group)						
1st generation		-.18 (.12)	-.08 (.11)		-.18 (.12)	-.08 (.11)
2nd generation		.11 (.11)	.15 (.10)		.13 (.11)	.14 (.10)
Parents did not attend University		.19 (.08)*	.09 (.07)		.21 (.09)*	.06 (.07)
Fixed Effects: Slope						
PA Beliefs: Merit [a]					.04 (.02)	.07 (.03)*
PA Beliefs: Luck [a]					-.00 (.01)	-.00 (.01)
Societal Beliefs: Merit [a]					-.01 (.02)	-.03 (.02)
Societal Beliefs: Privilege [a]					-.02 (.02)	-.01 (.02)
Just World Beliefs [a]					.01 (.02)	.01 (.02)
Family-of-origin SES [a]					.00 (.01)	-.00 (.01)
Female					-.04 (.04)	.04 (.04)

Age [a]					.01 (.01)	.01 (.01)
Ethnicity (White reference group)						
Latino/a					.05 (.06)	-.00 (.07)
Asian					.05 (.05)	.03 (.06)
Mixed / Other					.04 (.06)	.00 (.06)
Generational Status (3rd + generation reference group)						
1st generation					-.05 (.05)	-.11 (.05)*
2nd generation					-.04 (.04)	-.06 (.05)
Parents did not attend University					.00 (.04)	.01 (.03)
Random Effects						
Variance Slope				.01 (.01)	Varies	.00 [b]
Between-person variance	.17 (.03)	Varies	.06 (.02)	.18 (.03)	Varies	.06 [b]
Within-person variance	.12 (.01)	Varies	.10 (.01)	.09 (.01)	Varies	.09 [b]
Model Fit Statistics						
Deviance	398.78	Varies	271.65	388.92	Varies	251.75
AIC	404.78	Varies	305.65	400.92	Varies	311.75
BIC	415.92	Varies	368.78	423.20	Varies	423.16
Participants	140	140	140	140	140	140
Observations	303	Varies	303	303	Varies	303

Notes: [a] Grand-mean centered. [b] Standard Errors failed to calculate. Predictors entered individually in Models 2 and 5. * $p < .05$.

Table 12
Results of multilevel model analyses predicting participants' career-related goal disengagement.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects: Intercept						
Intercept	3.40 (.07)*	Varies	3.15 (.20)*	3.40 (.07)*	Varies	3.06 (.20)*
Slope				-.01 (.03)	Varies	-.06 (.09)
PA Beliefs: Merit [a]		-.03 (.06)	.00 (.08)		-.03 (.06)	-.03 (.08)
PA Beliefs: Luck [a]		.17 (.04)*	.14 (.04)*		.19 (.04)*	.16 (.04)*
Societal Beliefs: Merit [a]		-.06 (.05)	-.06 (.06)		-.06 (.05)	-.09 (.07)
Societal Beliefs: Privilege [a]		.17 (.04)*	.10 (.05)*		.15 (.04)*	.10 (.05)*
Just World Beliefs [a]		.06 (.04)	.02 (.04)		.06 (.04)	.03 (.04)
Family-of-origin SES [a]		.02 (.03)	.01 (.03)		.02 (.03)	.01 (.03)
Female		.10 (.14)	.11 (.14)		.10 (.14)	.12 (.14)
Age [a]		-.03 (.03)	-.02 (.03)		-.03 (.03)	-.01 (.03)
Ethnicity (White reference group)						
Latino/a		-.04 (.24)	.28 (.28)		-.06 (.24)	.29 (.28)
Asian		.37 (.20)	.51 (.25)*		.37 (.20)	.53 (.25)*
Mixed / Other		.07 (.22)	.26 (.25)		.03 (.22)	.29 (.24)
Generational Status (3rd + generation reference group)						
1st generation		.21 (.20)	-.21 (.24)		.23 (.20)	-.18 (.24)
2nd generation		.02 (.18)	-.22 (.21)		.03 (.18)	-.15 (.21)
Parents did not attend University		-.13 (.14)	-.02 (.15)		-.12 (.14)	.04 (.15)
Fixed Effects: Slope						
PA Beliefs: Merit [a]					.02 (.04)	.04 (.05)
PA Beliefs: Luck [a]					.07 (.02)*	.07 (.03)*
Societal Beliefs: Merit [a]					-.04 (.03)	-.05 (.04)
Societal Beliefs: Privilege [a]					.06 (.03)*	.01 (.03)
Just World Beliefs [a]					.02 (.03)	.01 (.03)
Family-of-origin SES [a]					.03 (.01)*	.03 (.02)
Female					-.05 (.06)	-.08 (.07)

Age [a]					.00 (.01)	.00 (.01)
Ethnicity (White reference group)						
Latino/a					-.10 (.11)	.17 (.13)
Asian					-.07 (.09)	.06 (.11)
Mixed / Other					-.11 (.10)	.03 (.11)
Generational Status (3rd + generation reference group)						
1st generation					.03 (.09)	.11 (.10)
2nd generation					-.02 (.07)	.03 (.09)
Parents did not attend University					-.06 (.06)	-.08 (.07)
Random Effects						
Variance Slope				.00 (.00)	Varies	.00 (.00)
Between-person variance	.44 (.08)	Varies	.31 (.06)	.45 (.08)	Varies	.30 (.06)
Within-person variance	.36 (.04)	Varies	.35 (.04)	.35 (.04)	Varies	.32 (.04)
Model Fit Statistics						
Deviance	722.61	Varies	689.65	719.87	Varies	666.86
AIC	728.61	Varies	723.65	731.87	Varies	734.86
BIC	739.75	Varies	786.78	754.16	Varies	861.12
Participants	140	140	140	140	140	140
Observations	303	Varies	303	303	Varies	303

Notes: [a] Grand-mean centered. Predictors entered individually in Models 2 and 5. * $p < .05$.

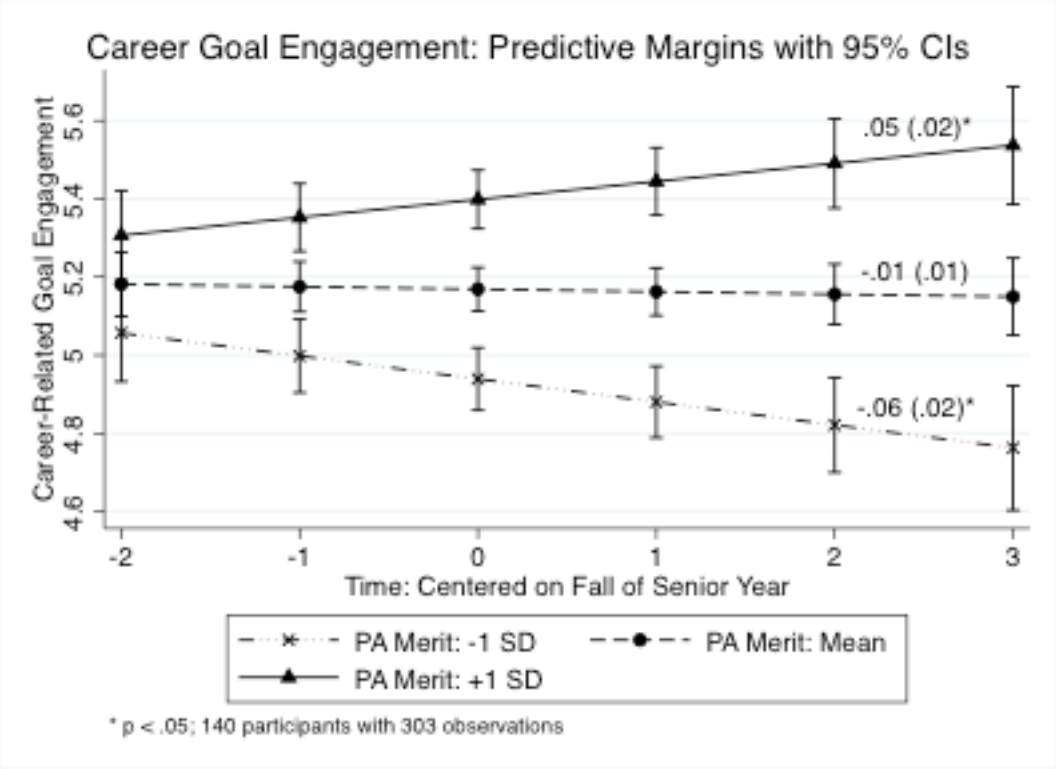

Figure 3. Participants' career goal engagement: predicted margins for time by merit-oriented personal agency beliefs interaction. Slopes presented for the mean and +/- 1 SD from the mean. Based on 140 participants with 303 observations. * $p < .05$

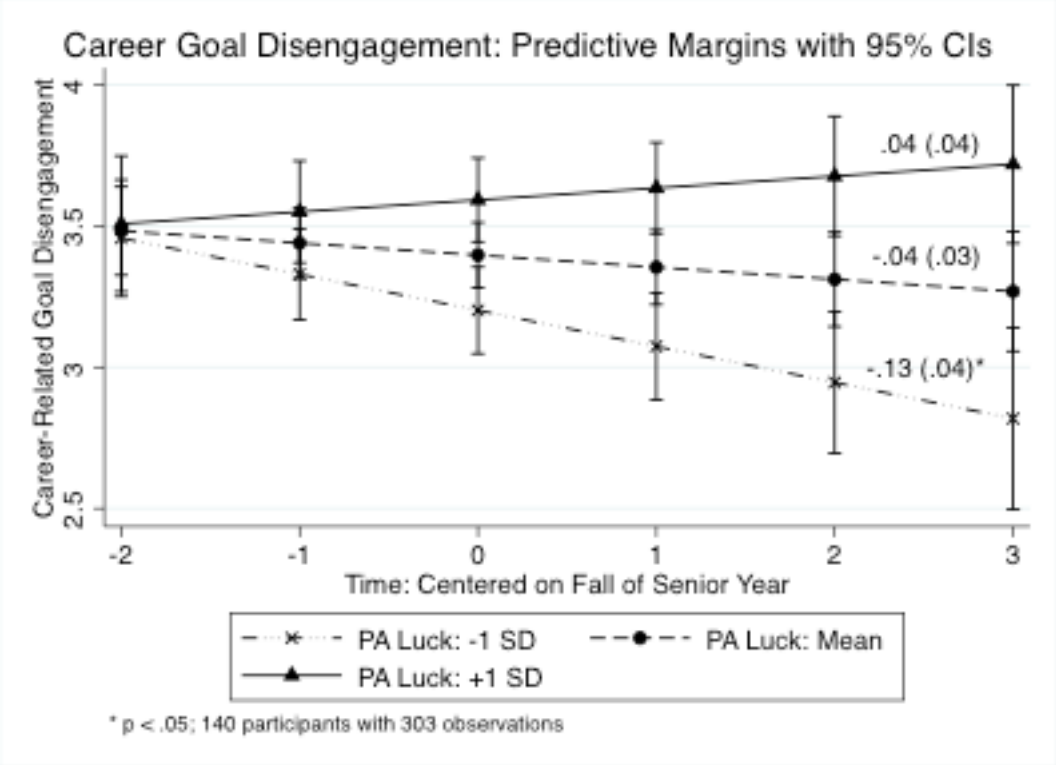

Figure 4. Participants' career goal disengagement: predicted margins for time by luck-oriented personal agency beliefs interaction. Slopes presented for the mean and +/- 1 SD from the mean. Based on 140 participants with 303 observations. * $p < .05$

Research Question 4: How are young adults' career-related motivational strategies related to career development?

Hypothesis 4a: Career-related goal engagement strategies will be positively associated with career development.

Hypothesis 4b: Career-related goal disengagement strategies will be associated with stagnation or decline in career development.

Model testing is performed in the sequence described in the plan for analyses section on page 39. Results are presented in Tables 13, 14, and 15, and further discussed below.

Regarding participants' career goal expectancy (Table 13), the results indicate that participants who are highly engaged with their career goals are more likely to expect to attain these career goals (B = .34 (.08), p < .05). Additionally, in three of the four predictor-models (2, 5, and 6), career-related goal disengagement strategies are significantly negatively associated with participants' career goal expectancy. The results also indicate that both participants' merit-oriented personal agency beliefs, and merit-oriented societal beliefs are significantly positively associated with their career goal expectancy. However, these relationships become non-significant when controlling for the other variables in the model. The results also indicate that participants' just world beliefs are significantly positively associated with their career goal expectancy, and steeper increases in career goal expectancy over time.

Regarding demographic differences, the results indicate a significant positive association between participants' family-of-origin SES and their career goal expectancy. Further, the results also indicate lower career goal expectancy for participants of Asian ethnicity, and participants who were born in another country; however, these relationships become non-significant when controlling for the other variables in the model. Finally, there is a significant interaction between the main predictor (career-related goal engagement) and ethnicity on the slope of participants' expectancy that they will attain their career goals. The interaction indicates that participants of Latino/a ethnicity report steeper increases in their career goal expectancy at *lower* levels of career-related goal engagement; a pattern that is counter to that observed for participants from other ethnic backgrounds. There are no significant interactions between career-related goal engagement and gender, age, family-of-origin SES, or generational status on the slope of participants' career goal expectancy.

Similarly to the results for career goal expectancy, as seen in (Table 14), career-related goal engagement strategies are significantly positively associated with the value participants place on attaining their career goals (B = .27 (.04), p < .05). In addition, career-related goal disengagement strategies are significantly negatively associated with participants' career goal value (B = -.09 (.03), p < .05). The results also indicate that both participants' merit-oriented personal agency beliefs, and merit-oriented societal beliefs are significantly positively associated with, while privilege-oriented societal beliefs are significantly negatively associated with career goal value. However, these relationships become non-significant when controlling for the other variables in the model.

Regarding demographic differences, the results indicate a significant positive association between participants' family-of-origin SES and their career goal value. In addition, there is a significant interaction between the main predictor (career-related goal engagement) and family-of-origin SES on the slope of participants' value that they place on attaining their career goals. The interaction indicates that participants from lower family-of-origin SES backgrounds report steeper increases in the value they place on attaining their career goals at *lower* levels of career-related goal engagement. There are no significant interactions between participants' career-related goal engagement and gender, ethnicity, age, or generational status on the slope of participants' career goal value.

Finally, participants' satisfaction with their career goal progress (Table 15) is significantly positively associated with their career-related goal engagement strategies (B = .41 (.08), p < .05). In three of the four predictor-models (2, 5, and 6), merit-oriented personal agency beliefs are significantly positively associated with participants' satisfaction with their career goal progress. In addition, participants' just world beliefs are significantly positively associated with

their satisfaction with their career goal progress. Further, the results indicate less satisfaction with career goal progress for participants of Asian ethnicity. However, both of these last two relationships become non-significant when controlling for the other variables in the model. In addition, Model 3 indicates that participants whose parents did not attend university are significantly less satisfied with their progress toward attaining their career goals. There are no significant interactions between participants' career-related goal engagement and gender, ethnicity, age, family-of-origin SES or generational status on the slope of participants' satisfaction with their career goal progress.

In addition to the observed significant associations discussed above, all three sets of models indicate that substantial between-person variance, and some within-person variance in career-related progress is accounted for by the set of predictors in the model. Collectively, the results provide strong support for Hypothesis 4a, and indicate that participants who are engaged with their career goals are more likely to report enhanced expectancy that they will attain their career goals, place more value on attaining their career goals, and are more satisfied with their current progress toward attaining their career goals. Additionally, the results provide moderate support for Hypothesis 4b, and indicate that participants who disengage from their career goals report diminished expectations that they will attain their career goals, and devalue their career goals.

Table 13
Results of multilevel model analyses predicting participants' career goal expectancy.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects: Intercept						
Intercept	3.35 (.04)*	Varies	3.43 (.12)*	3.34 (.04)*	Varies	3.43 (.12)*
Slope				-.02 (.02)	Varies	-.06 (.07)
Career Goal Engagement [a]		.40 (.06)*	.34 (.08)*		.41 (.06)*	.34 (.08)*
Career Goal Disengagement [a]		-.09 (.04)*	-.07 (.04)		-.09 (.04)*	-.08 (.04)*
PA Beliefs: Merit [a]		.26 (.04)*	.11 (.06)		.26 (.04)*	.11 (.06)
PA Beliefs: Luck [a]		-.03 (.03)	.02 (.03)		-.02 (.03)	.03 (.03)
Societal Beliefs: Merit [a]		.12 (.04)*	-.04 (.05)		.12 (.04)*	-.06 (.05)
Societal Beliefs: Privilege [a]		-.05 (.03)	-.02 (.03)		-.04 (.03)	-.02 (.03)
Just World Beliefs [a]		.04 (.03)	.04 (.03)		.03 (.03)	.05 (.03)
Family-of-origin SES [a]		.05 (.02)*	.05 (.02)*		.05 (.02)*	.05 (.02)*
Female		.06 (.09)	.07 (.08)		.06 (.09)	.06 (.08)
Age [a]		.02 (.02)	.02 (.02)		.02 (.02)	.02 (.02)
Ethnicity (White reference group)						
Latino/a		-.26 (.15)	-.17 (.17)		-.25 (.15)	-.20 (.16)
Asian		-.41 (.13)*	-.14 (.15)		-.41 (.13)*	-.15 (.15)
Mixed / Other		-.08 (.14)	-.00 (.14)		-.09 (.14)	.02 (.14)
Generational Status (3rd + generation reference group)						
1st generation		-.27 (.13)*	-.05 (.14)		-.26 (.13)*	-.06 (.14)
2nd generation		-.15 (.11)	-.03 (.12)		-.15 (.11)	-.01 (.12)
Parents did not attend University		-.02 (.09)	-.06 (.09)		-.02 (.09)	-.05 (.09)
Fixed Effects: Slope						
Career Goal Engagement [a]					-.02 (.03)	-.03 (.05)
Career Goal Disengagement [a]					.01 (.02)	-.02 (.02)
PA Beliefs: Merit [a]					.02 (.03)	-.00 (.04)
PA Beliefs: Luck [a]					-.01 (.02)	-.02 (.02)
Societal Beliefs: Merit [a]					.01 (.02)	-.02 (.03)

Societal Beliefs: Privilege [a]					-.02 (.02)	-.01 (.02)
Just World Beliefs [a]					.04 (.02)*	.05 (.02)*
Family-of-origin SES [a]					.01 (.01)	.00 (.01)
Female					-.04 (.05)	-.04 (.05)
Age [a]					-.00 (.01)	-.00 (.01)
Ethnicity (White reference group)						
Latino/a					.01 (.08)	-.01 (.10)
Asian					.01 (.06)	.00 (.08)
Mixed / Other					.03 (.07)	.05 (.08)
Generational Status (3rd + generation reference group)						
1st generation					-.00 (.06)	.07 (.08)
2nd generation					-.00 (.05)	.10 (.07)
Parents did not attend University					.02 (.04)	-.02 (.05)
Random Effects						
Variance Slope				.00 (.00)	Varies	.00 (.00)
Between-person variance	.15 (.03)	Varies	.07 (.02)	.15 (.03)	Varies	.06 (.02)
Within-person variance	.21 (.02)	Varies	.19 (.02)	.21 (.02)	Varies	.19 (.02)
Model Fit Statistics						
Deviance	507.64	Varies	437.05	505.68	Varies	425.08
AIC	513.64	Varies	475.05	517.68	Varies	501.08
BIC	524.73	Varies	545.30	539.86	Varies	641.57
Participants	139	139	139	139	139	139
Observations	298	Varies	298	298	Varies	298

Notes: [a] Grand-mean centered. Predictors entered individually in Models 2 and 5. * $p < .05$.

Table 14
Results of multilevel model analyses predicting participants' career goal value.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects: Intercept						
Intercept	3.71 (.03)*	Varies	3.63 (.10)*	3.70 (.04)*	Varies	3.64 (.10)*
Slope				-.05 (.02)*	Varies	-.08 (.06)
Career Goal Engagement [a]		.27 (.04)*	.25 (.06)*		.24 (.05)*	.20 (.06)*
Career Goal Disengagement [a]		-.09 (.03)*	-.10 (.03)*		-.08 (.03)*	-.10 (.03)*
PA Beliefs: Merit [a]		.18 (.04)*	.04 (.05)		.16 (.04)*	.05 (.05)
PA Beliefs: Luck [a]		-.04 (.02)	.01 (.02)		-.02 (.02)	.03 (.02)
Societal Beliefs: Merit [a]		.08 (.03)*	-.02 (.04)		.08 (.03)*	-.02 (.04)
Societal Beliefs: Privilege [a]		-.05 (.03)*	-.03 (.03)		-.04 (.02)	-.03 (.03)
Just World Beliefs [a]		.04 (.02)	.04 (.02)		.04 (.02)*	.04 (.02)
Family-of-origin SES [a]		.04 (.02)*	.05 (.02)*		.04 (.01)*	.05 (.02)*
Female		-.03 (.08)	.00 (.07)		-.03 (.07)	.01 (.07)
Age [a]		-.00 (.01)	-.01 (.01)		-.00 (.01)	-.00 (.01)
Ethnicity (White reference group)						
Latino/a		.13 (.12)	.18 (.13)		.13 (.12)	.22 (.13)
Asian		-.16 (.10)	-.02 (.12)		-.15 (.10)	-.00 (.12)
Mixed / Other		.03 (.11)	.01 (.12)		.04 (.11)	.03 (.11)
Generational Status (3rd + generation reference group)						
1st generation		-.12 (.11)	.03 (.11)		-.11 (.10)	-.07 (.11)
2nd generation		.06 (.09)	.07 (.10)		.08 (.09)	.03 (.10)
Parents did not attend University		.05 (.07)	.02 (.07)		.06 (.07)	.01 (.07)
Fixed Effects: Slope						
Career Goal Engagement [a]					.01 (.03)	-.04 (.04)
Career Goal Disengagement [a]					.00 (.02)	.00 (.02)
PA Beliefs: Merit [a]					.05 (.02)*	.06 (.03)
PA Beliefs: Luck [a]					-.03 (.01)	-.02 (.02)
Societal Beliefs: Merit [a]					.04 (.02)	.01 (.03)

Societal Beliefs: Privilege [a]					-.03 (.02)	-.02 (.02)
Just World Beliefs [a]					.04 (.02)*	.03 (.02)
Family-of-origin SES [a]					-.00 (.01)	-.01 (.01)
Female					-.03 (.04)	.02 (.04)
Age [a]					.01 (.01)*	.02 (.01)
Ethnicity (White reference group)						
Latino/a					.07 (.06)	.10 (.08)
Asian					.02 (.05)	.09 (.07)
Mixed / Other					.01 (.06)	.02 (.07)
Generational Status (3rd + generation reference group)						
1st generation					-.01 (.05)	-.08 (.06)
2nd generation					.02 (.05)	-.02 (.06)
Parents did not attend University					.01 (.03)	-.05 (.04)
Random Effects						
Variance Slope				.00 [b]	Varies	.00 (.00)
Between-person variance	.08 (.02)	Varies	.04 (.02)	.09 [b]	Varies	.03 (.01)
Within-person variance	.16 (.02)	Varies	.15 (.02)	.14 [b]	Varies	.14 (.02)
Model Fit Statistics						
Deviance	399.71	Varies	339.54	385.96	Varies	308.05
AIC	405.71	Varies	377.54	389.96	Varies	382.05
BIC	416.81	Varies	447.85	397.36	Varies	518.97
Participants	140	140	140	140	140	140
Observations	299	Varies	299	299	Varies	299

Notes: [a] Grand-mean centered. [b] Standard Errors failed to calculate. Predictors entered individually in Models 2 and 5. * $p < .05$.

Table 15

Results of multilevel model analyses predicting participants' satisfaction with their progress toward attaining their career goals.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects: Intercept						
Intercept	2.82 (.06)*	Varies	3.07 (.19)*	2.82 (.06)*	Varies	3.12 (.18)*
Slope				-.06 (.03)	Varies	-.00 (.11)
Career Goal Engagement [a]		.41 (.08)*	.38 (.11)*		.43 (.08)*	.37 (.11)*
Career Goal Disengagement [a]		.04 (.05)	.08 (.06)		.05 (.05)	.09 (.06)
PA Beliefs: Merit [a]		.29 (.06)*	.21 (.09)*		.28 (.06)	.24 (.09)*
PA Beliefs: Luck [a]		-.05 (.04)	-.04 (.04)		-.03 (.04)	-.01 (.04)
Societal Beliefs: Merit [a]		.10 (.06)	-.11 (.07)		.07 (.06)	-.15 (.07)*
Societal Beliefs: Privilege [a]		-.07 (.05)	-.06 (.05)		-.06 (.04)	-.06 (.05)
Just World Beliefs [a]		.10 (.04)*	.07 (.04)		.10 (.04)*	.07 (.04)
Family-of-origin SES [a]		.04 (.03)	.02 (.03)		.04 (.03)	.02 (.03)
Female		.01 (.13)	-.02 (.13)		.02 (.13)	-.02 (.12)
Age [a]		-.02 (.02)	-.02 (.02)		-.01 (.02)	-.02 (.02)
Ethnicity (White reference group)						
Latino/a		-.25 (.21)	-.09 (.25)		-.19 (.21)	-.15 (.25)
Asian		-.40 (.18)*	-.27 (.23)		-.41 (.17)*	-.35 (.22)
Mixed / Other		-.00 (.20)	-.06 (.22)		-.00 (.19)	-.05 (.21)
Generational Status (3rd + generation reference group)						
1st generation		-.30 (.18)	.06 (.21)		-.31 (.18)	.00 (.21)
2nd generation		-.22 (.16)	-.02 (.19)		-.20 (.16)	.00 (.19)
Parents did not attend University		-.16 (.13)	-.29 (.14)*		-.10 (.13)	-.25 (.13)
Fixed Effects: Slope						
Career Goal Engagement [a]					-.04 (.05)	-.08 (.07)
Career Goal Disengagement [a]					-.02 (.06)	-.04 (.04)
PA Beliefs: Merit [a]					.03 (.04)	.08 (.06)
PA Beliefs: Luck [a]					-.01 (.03)	-.02 (.03)

Societal Beliefs: Merit [a]					.02 (.04)	-.04 (.05)
Societal Beliefs: Privilege [a]					-.05 (.03)	-.04 (.04)
Just World Beliefs [a]					.03 (.03)	.02 (.03)
Family-of-origin SES [a]					.02 (.02)	-.01 (.02)
Female					-.09 (.07)	-.07 (.08)
Age [a]					-.02 (.01)	-.01 (.02)
Ethnicity (White reference group)						
Latino/a					-.13 (.11)	-.09 (.15)
Asian					.03 (.10)	.08 (.13)
Mixed / Other					.20 (.11)	.23 (.12)
Generational Status (3rd + generation reference group)						
1st generation					-.09 (.10)	-.09 (.12)
2nd generation					-.12 (.08)	-.05 (.11)
Parents did not attend University					-.11 (.06)	-.04 (.08)
Random Effects						
Variance Slope				.02 (.02)	Varies	.03 (.02)
Between-person variance	.29 (.06)	Varies	.19 (.05)	.31 (.07)	Varies	.18 (.05)
Within-person variance	.45 (.05)	Varies	.42 (.05)	.38 (.06)	Varies	.33 (.05)
Model Fit Statistics						
Deviance	735.62	Varies	688.39	728.21	Varies	658.77
AIC	741.62	Varies	726.39	740.21	Varies	734.77
BIC	752.75	Varies	796.88	762.47	Varies	875.76
Participants	140	140	140	140	140	140
Observations	302	Varies	302	302	Varies	302

Notes: [a] Grand-mean centered. Predictors entered individually in Models 2 and 5. * $p < .05$.

Research Question 5: How does an individual's career development influence her/his subsequent beliefs about socioeconomic status attainment?

Hypothesis 5: *Successful career development will enhance individuals' perceptions of opportunities for socioeconomic status attainment, while setbacks will diminish individuals' perceptions of opportunities for socioeconomic status attainment.*

As this hypothesis is primarily concerned with changes in participants' perceptions of opportunity over time, the focus of the analyses is on time by predictor interactions. Thus, to test this hypothesis, growth-curve multilevel models are run predicting just world beliefs, merit-oriented societal beliefs, privilege-oriented societal beliefs, merit-oriented personal agency beliefs, and luck-oriented personal agency beliefs. To keep the sample consistent across analyses, the sample was restricted to 139 participants with 297 observations for each analysis. Participants' career goal expectancy and their satisfaction with progress toward attaining their career goals are assessed independently of one another. Participants' demographics are controlled for in each analysis; including family-of-origin SES, sex, age, ethnicity, generational status, and whether participants' parents attended university. The results are discussed below and presented in Table 16.

As seen in Table 16, there is significant time by satisfaction with career-goal progress interaction in predicting participants' privilege-oriented societal beliefs (B = -.09 (.04), $p < .05$). The interaction is presented in Figure 5, and indicates that participants who are less satisfied with their career-goal progress have steeper increases in their privilege-oriented societal beliefs over time. In addition, there is a trend-level significant time by goal-expectancy interaction in predicting participants' beliefs that the world is just. This interaction is non-significant, but

suggests that participants with higher career goal-expectancy have steeper increases in their just world beliefs over time.

Regarding interactions between the main predictors and participants' gender, the results indicate that at low levels of satisfaction with career progress, men report significantly steeper declines in their beliefs that the world is just over time than women do. In addition, at low levels of career goal expectancy, women report steeper increases in their privilege-oriented societal beliefs over time than men do. Regarding interactions with ethnicity, at low levels of career goal expectancy, participants of White ethnicity report significantly steeper declines in their merit-oriented personal agency beliefs over time than participants of Latino/a ethnicity. Regarding interactions with family-of-origin SES, at high levels of career goal expectancy, participants from lower family-of-origin SES backgrounds report significantly steeper increases in their merit-oriented societal beliefs over time than participants from higher family-of-origin SES backgrounds. Regarding generational status, at higher levels of satisfaction with career goal progress, third generation participants report steeper increases in their luck-oriented personal agency beliefs over time than first generation participants do. Finally, regarding interactions with age, at lower levels of satisfaction with career goal progress, younger participants report steeper increases in their luck-oriented personal agency beliefs over time than older participants do. There are no other interactions between the main predictors (satisfaction with career progress, and career goal expectancy) and demographics on the slope of participants' belief systems.

Collectively the results provide some support for Hypothesis 5, and indicate that participants' positive career-goal progress is generally associated with enhanced perceptions of just world beliefs, and diminished endorsement of privilege-oriented societal beliefs.

Table 16

Results of multilevel model analyses predicting participants' satisfaction with their progress toward attaining their career goals.

		Societal Beliefs		Personal Agency Beliefs	
	JWG	Merit	Privilege	Merit	Luck
Fixed Effects - Intercept					
Goal Expectancy [a]	.27 (.11)*	.13 (.07)	-.02 (.10)	.27 (.06)*	.06 (.11)
Goal Progress Satisfaction [a]	.18 (.08)*	.02 (.05)	-.05 (.07)	.17 (.04)*	.01 (.08)
Fixed Effects - Slope					
Goal Expectancy [a]	.14 (.07)	.01 (.05)	-.07 (.06)	.04 (.04)	-.12 (.07)
Goal Progress Satisfaction [a]	.05 (.05)	-.02 (.03)	-.09 (.04)*	.03 (.02)	-.06 (.05)

Notes: Controlling for Family-of-origin SES, Sex, Age, Ethnicity, Generational status, and Parents did not attend university. Sample contains 139 participants with 297 observations. Predictors entered individually. * $p < .05$

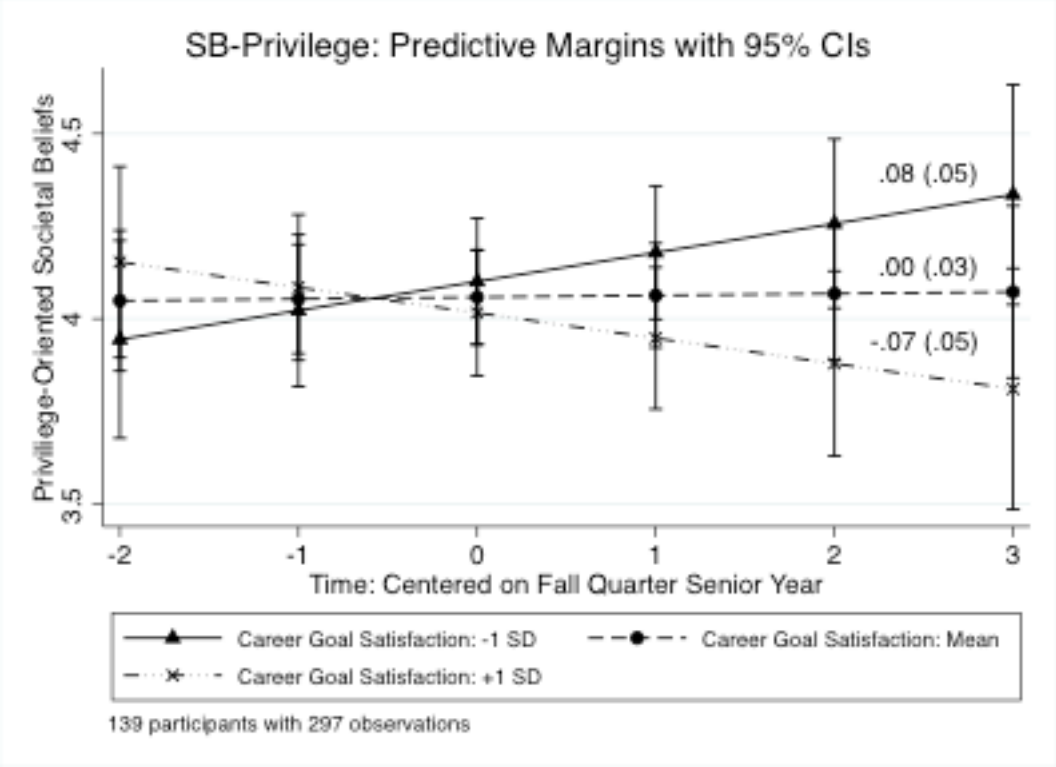

Figure 5. Participants' privilege-oriented societal beliefs: predicted margins for time by satisfaction with career goal progress interaction. Slopes presented for the mean and +/- 1 SD from the mean. Based on 139 participants with 297 observations. * $p < .05$

Study 2: Method

Study 2: Participants and Procedure

The purpose of Study 2 of the doctoral dissertation is to expand on Study 1 by focusing on the year after graduating from university, incorporating a more robust assessment of objective opportunities for young adults' socioeconomic status attainment, measures for social connections-oriented societal beliefs and social connections-oriented personal agency beliefs, a more differentiated measure of career-related motivational strategies, more indicators of career development, and a larger sample. Participants are recruited from individuals who completed the 2013 Graduating Senior Survey (GSS), a 10-minute online survey that goes out each year to UCI bachelor's degree graduates. This recruitment strategy resulted in a sample that approximates the broader UCI student body. Participants completed a series of four 30-minute online surveys across a period of approximately 10 months. The first assessment was completed in June of 2013, the second between August and September of 2013, the third between November and December of 2013, and the fourth between February and March of 2014.

Participants over 33 years of age at the first assessment were dropped from the sample. This left 282 participants, who constitute the study sample. The resulting sample demographics at the initial assessment are as follows. The sample is predominately female (n = 182; 64.5%). The mean age is 22.30 years (SD = 1.86). There are 133 participants who identify as Asian (47.3%), 32 who identify as Latino/a (11.4%), 54 who identify as White (54%), and 62 who identify as mixed or other ethnicity (22.1%). The participants' average self-reported family-of-origin SES is 5.33 (SD = 2.07) on a 10-point scale. The participants' average GPA is 3.28 (SD = .44). The participants' average major-specific unemployment rate is 6.79 (SD = 1.26), and major-specific income is $47,806.45 (SD = 9659.33). 149 participants (52.5%) were currently

working at the first assessment, and the average reported income was approximately $600 per month. Over the course of the study, 59 participants (20.8%) dropped out of the study or had incomplete data on the study variables of interest. Attrition analyses are conducted to compare the demographics of participants who dropped out of the study or had incomplete data versus those participants who had complete data across the study time frame. No demographic characteristics are found to have differing rates of participant attrition.

Measures

Just World Beliefs. The just world beliefs scale reflects participants' beliefs regarding how fair the world is for people in general (Dalbert, 1999). Participants respond to each item in the scale with 1 = *strongly disagree* and 6 = *strongly agree*. The modified version of the scale consists of two items (r = .61); "I think that basically the world is a just place," and "I believe that, by and large, people get what they deserve."

Causal Attributions for Social Status. Causal attributions for social status are measured using a modified version of a scale developed by Smith and Stone (1989). The scale includes items regarding why people have a high social status in American society. Participants respond to each item in the scale with 1 = *strongly disagree* and 6 = *strongly agree*. The measure includes a four-item *merit* subscale (α = 89); "People at the top of the social status ladder in America are there because they… (1) "have the talent and the ability to succeed," (2) "are hard working and put in the effort needed to succeed," (3) "possess drive and perseverance," and (4) "have the skills and qualifications necessary to get ahead." The measure also includes a five-item *privilege* subscale (α = 77); "People at the top of the social status ladder in America are there because they… (1) "have experienced good luck in life that was not directly under their control," (2)

"receive large inheritances," (3) "receive favoritism in hiring, promotions and wages," (4) "are lucky in life," and (5) "were born and raised in an environment that provided them plenty of opportunities." Finally, the measure also includes a two-item social connections subscale (r = .67); "People at the top of the social status ladder in America are there because they… (1) "have influential social connections," and (2) know the right people who can help them get ahead."

Personal Agency Beliefs. Personal agency beliefs for social mobility are measured using a modified version of a scale used earlier in our research program (Shane, Heckhausen, Lessard, Chen & Greenberger, 2012; Shane & Heckhausen, 2013). Participants respond to each item in the scale with 1 = *strongly disagree* and 6 = *strongly agree*. The scale contains four, two-item subscales, one subscale concerning *effort* (r = .72) (e.g., "My work ethic will determine how far up the social status ladder I move"), one for *ability* (r = .44) (e.g., "I have the ability to be able to move up the social status ladder"), one for *luck* (r = .85) (e.g., "How far up the social status ladder I move will be determined mostly by chance"), and one for *social connections* (r = .37) (e.g., "I have the contacts and influence that will allow me to move up the social status ladder").

Career-Related Goal Engagement and Disengagement Strategies. Career-related goal engagement and disengagement strategies are measured using a 10-item career-related optimization in primary and secondary control scale (OPS) (Heckhausen, Wrosch & Schulz, 1998). The career OPS has a two-item sele*ctive primary control* subscale (r = .55) (e.g., "I will work hard to have a good (career/education)"), a two-item *selective secondary control* subscale (r = .33) (e.g., "I often remind myself how important it is for my future to have a good career"), a two-item *compensatory primary control* subscale (r = .26) (e.g., "If my career path is not going in the right direction, I will get help from others"), a two-item an *disengagement compensatory selective secondary* control subscale (r = .55) (e.g., "I stop thinking about a career-goal that has

become unattainable and let it go"), and a two-item *reengagement compensatory secondary control* subscale (r = .47) (e.g., "When I cannot attain a career-goal, I pursue other meaningful goals).

Career Development. Career development items include single-item questions related to participants' perceived control over goal attainment ("How much control do you feel you have over attaining this career goal?" with 1 = *no control* and 4 = *completely under my control*), expectancy of attaining goal ("How likely do you think it is that you will attain this career goal?" with 1 = *not at all likely* and 4 = *very likely*), perceived value of goal ("How important is it for you to attain this career goal?" with 1 = *not at all important* and 4 = *very important*), and satisfaction with current progress toward the goal ("How satisfied are you with your current progress toward your ultimate career goal?" with 1 = *not at all satisfied* and 4 = *very satisfied*).

Subjective Socioeconomic Status. Subjective socioeconomic status is measured using family-of-origin ("past"), current-self ("present"), and expected social status in 10 years ("future") versions of the subjective socioeconomic status ladder (Adler, Epel, Castellazzo & Ickovics, 2000; Shane & Heckhausen, 2013). Each item includes a picture of a 10-rung ladder, and participants are asked to indicate where on the ladder they (or their family-of-origin) is with respect to the following frame of reference, "Imagine this ladder represents American society, at the top of the ladder are the people who are the best off… they have the most money, the highest amount of schooling, and the jobs that bring the most respect. At the bottom of the ladder are the people who are the worst off… they have the least money, little or no education, no jobs or jobs that no one wants or respects." For the past-ladder, participants indicate where their family of origin was on the ladder, for the present ladder, participants indicate where they are currently on

the ladder, and for the future ladder, participants indicate where they expect to be on the ladder in 10 years.

Major-Specific Income and Employment Rate. Participants reported their major, from which major-specific income and employment rates are calculated. These rates are calculated using the 2013 major-specific income and employment rates published by the Center on Education and the Workforce (Carnevale & Cheah, 2013). The report lists income and employment rates for experienced and recent college graduates. For the purposes of the present study, the experienced and recent college graduates income and employment rates are averaged, with the resulting averages used as the indicators of participants' major-specific income and employment rates.

Work-Specific Measures. Participants are asked whether or not they are currently working for pay, or at an unpaid internship. Those who report they are working, are then asked how helpful their current work is toward attaining their long-term career goals on a 4-point scale with 1 = *not currently working / not at all helpful* and 4 = *very helpful*. In addition, participants report their average monthly income from all paid employment sources over the past three months.

School-Specific Measures. Participants report their final undergraduate GPA. In addition, participants report whether or not they are currently attending graduate school.

Demographics. Participants' report their sex, age, and ethnicity. Due to small numbers in some of the categories, ethnicity was coded as Asian, Latino/a, White, and Mixed/Other for analyses.

Study 2: Plan for Analysis

Similar to Study 1, data are primarily analyzed using a growth curve multilevel modeling approach. As discussed in detail in the plan for analysis section from Study 1 (see page 39), this approach was chosen after exploration of alternate analytic techniques and a careful consideration of the pros and cons of these approaches. Growth curve multilevel modeling analyses were performed because this technique uses all of the data available, easily assesses multiple covariates simultaneously, and examines inter-individual and intra-individual relationships between the variables of interest. However, the downside of this approach is that it does not address issues of endogeneity (e.g., directions of influence between variables), and as such the results do not provide statistical evidence of causality.

Descriptive analyses. Means and standard deviations are calculated for the main study variables at each wave in the study. Following this, correlations between the main study variables are calculated at each wave in the study. Next, correlations within the main study variables across waves are calculated to indicate relative levels of stability across the study timeframe. To examine Research Question 1, paired-sample *t*-tests are used to assess mean level differences in participants' perceptions of social mobility and their endorsement of societal and personal agency beliefs for socioeconomic status attainment. Finally, demographic differences in participants' just world beliefs, societal beliefs and personal agency beliefs for socioeconomic status attainment are examined using independent sample *t*-tests (for gender), ANOVA with Bonferroni-corrected comparisons (for ethnicity), and correlations (for family-of-origin SES and age).

Model testing. To examine the remainder of the study hypotheses, the data are analyzed using multilevel modeling (Fitzmaurice, Laird & Ware, 2011; Rabe-Hesketh & Skrondal, 2012;

Singer & Willett, 2003) in Stata. Data have a two-level hierarchical structure, wherein survey responses (level 1) are nested within participants (level 2). Four observations are the most that any given participant contributes to the analyses. To aid interpretation of results, all continuous independent variables are grand-mean centered. This means that coefficients can be interpreted as the relationship between the predictor variable and the dependent variable at the mean level of other continuous covariates in the model. Models 1, 3, 4, and 6 are estimated using restricted samples due to missing data. Models 2 and 5 are estimated using the full sample and only restricted based on the missing data for the independent variable and dependent variable being assessed.

Model testing proceeds in a step-wise fashion, guided by the hypothesized model presented in Figure 2. A total of six multilevel models are run for each dependent variable. Model 1 is an unconditional means model, wherein the dependent variable is analyzed without independent variables. Model 1 serves the purpose of establishing a baseline intercept, as well as within- and between-person sources of variance. Next, Model 2 consists of separate conditional means models depicting the relationship of each independent variable with the dependent variable. Model 2 serves the purpose of establishing the independent relationships between the independent variables and the dependent variable intercept. Next, Model 3 consists of a single conditional means model, wherein all the independent variables are included simultaneously as predictors of the dependent variable. Model 3 serves the purpose of establishing the relationships between the independent variables and the dependent variables while controlling for the effects of the other independent variables in the model.

Turning to an assessment of the dependent variable's slope, Model 4 consists of an unconditional growth model, wherein the dependent variable is analyzed without the independent

variables but with the fixed and random effects of time. Model 4 serves the purpose of establishing the within- and between-person sources of variance, as well as the variance in the dependent variable's slope. Next, Model 5 consists of separate conditional growth models depicting the relationship of each independent variable with the dependent variable's slope. Model 5 serves the purpose of establishing the independent relationships between the independent variables and the dependent variable's slope. Finally, Model 6 consists of a single conditional growth model, wherein all the independent variables are included simultaneously as predictors of the dependent variable's slope. Model 6 serves the purpose of establishing the relationships between the independent variables and the dependent variable's slope while controlling for the effects of the other independent variables in the model.

Models are assessed for their fit to the data using the model's deviance, AIC, and BIC. When assessing subsequent models, decreases in the model's deviance indicate that the model explains more of the dependent variable's variance. Decreases in the AIC and BIC indicate that the model fits the data better, while adjusting for the amount of predictors present in the model. In addition, multilevel modeling partitions the variance into within- and between-person variance, and in the case of the growth models the variance of the dependent variable's slope. These variance estimates allow another source of model comparison, wherein preferred models have the smallest variance components and thus explain the most amount of variance. While model fit indices are examined, of more interest to the present study are the individual predictors' coefficients. These are present in models 2, 3, 5, and 6 and are used to assess the study hypotheses predicting relationships between the variables of interest independently (models 2 and 5) and while controlling for the effects of the other variables in the model (models 3 and 6). The means models (2 and 3) are best interpreted as the average relationship between the

independent and dependent variables intercept. The growth models (5 and 6) are best interpreted as the relationship between the independent variables' intercepts and the dependent variable's slope.

After running each set of models, participants' gender, ethnicity, age, and family-of-origin SES are assessed as moderators on the association between the main predictor variable and slope of the dependent variable.

Study 2: Results

Descriptive Analyses

Correlation analyses are conducted for the time-varying covariates of central interest in the study. Correlations across constructs within each wave are presented in Tables 17-20 with the respective constructs' means and standard deviations. Correlations are also presented across waves within each construct in Table 21.

As seen in Tables 17, 18, 19, and 20, the relationships among belief systems and motivational strategies generally fall into three groupings. The first grouping emphasizes controllable beliefs (e.g., merit, effort, and ability), career-related goal engagement strategies (e.g., selective primary control, selective secondary control, and compensatory primary control), and positive relationships with career development. The second grouping emphasizes uncontrollable beliefs (e.g., privilege and luck), career-related goal disengagement strategies (e.g., compensatory secondary control disengagement and reengagement), and negative relationships with career development. The third grouping emphasizes partly controllable and instrumental beliefs (e.g., social connections), career-related goal engagement strategies, and positive relationships with career development. The results further indicate that social

connections are more related with merit-oriented beliefs than with privilege/fatalistic-oriented beliefs. Another interesting cross-pattern to these groupings is evident in the positive relationships between career-related compensatory secondary control-reengagement strategies and merit-oriented beliefs. These patterns are generally in line with expectations, and provide some support for the study hypotheses and justification for the more detailed model testing that follows. As seen in Table 21, most constructs are relatively stable across the study, with declines in the strength of correlation observed with increasing time lags (e.g., 1 wave difference versus a 3 wave difference). This pattern provides support for examining the longitudinal nature of the data in further detail using growth curve multilevel modeling.

Table 17
Study 2 Wave 1 constructs: means, standard deviations and correlations.

	n	M (SD)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Just World Beliefs	282	3.26 (1.14)	1															
SB: Merit	281	4.43 (.86)	.23*	1														
SB: Connections	281	4.97 (.81)	-.09	.33*	1													
SB: Privilege	281	4.22 (.83)	-.10	.07	.61*	1												
PA: Ability	281	4.73 (.76)	.18*	.28*	.17*	.03	1											
PA: Effort	281	5.02 (.80)	.10	.36*	.23*	-.02	.77*	1										
PA: Connections	282	4.21 (.93)	.13*	.13*	.07	.08	.53*	.44*	1									
PA: Luck	281	3.54 (1.28)	.01	-.13*	.16*	.40*	-.06	-.15*	.18*	1								
SPC	282	4.99 (.71)	.09	.29*	.26*	.06	.51*	.53*	.32*	-.02	1							
CPC	283	4.69 (.79)	.10	.28*	.17*	.10	.41*	.40*	.31*	-.05	.63*	1						
SSC	282	4.85 (.98)	.17*	.20*	.14*	.06	.39*	.29*	.29*	.05	.45*	.45*	1					
CSC: Disengage	282	3.19 (1.15)	.05	-.06	-.06	.03	-.17*	-.19*	-.08	.12	-.15*	-.01	-.04	1				
CSC: Reengage	282	4.28 (.97)	.08	.17*	.11	.08	.11	.14*	.01	.08	.13*	.25*	.12*	.50*	1			
Career Expectancy	282	3.27 (.69)	.14*	.12*	-.07	-.15*	.31*	.25*	.29*	-.05	.26*	.17*	.30*	-.13*	-.12*	1		
Career Goal Value	280	3.61 (.60)	.16*	.12*	.07	.04	.12*	.09	.19*	.07	.23*	.18*	.23*	-.07	.02	.37*	1	
Career Goal Control	282	2.83 (.72)	.16*	.00	.03	-.04	.34*	.28*	.28*	-.01	.24*	.17*	.24*	-.12*	-.05	.57*	.27*	1
Career Satisfaction	280	2.75 (.92)	.17*	.10	-.02	-.09	.40*	.31*	.33*	-.07	.34*	.21*	.32*	-.08	-.06	.47*	.15*	.50*

Notes: SB = societal beliefs; PA = personal agency beliefs; SPC = selective primary control; CPC = compensatory primary control; SSC = selective secondary control; CSC: Disengage = compensatory secondary control - disengagement; CSC: Reengage = compensatory secondary control - reengagement. * $p < .05$

Table 18
Study 2 Wave 2 constructs: means, standard deviations and correlations.

	n	M (SD)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Just World Beliefs	224	3.29 (1.07)	1															
SB: Merit	224	4.48 (.83)	.28*	1														
SB: Connections	224	4.90 (.83)	-.15*	.27*	1													
SB: Privilege	224	4.23 (.86)	-.08	.02	.60*	1												
PA: Ability	228	4.73 (.75)	.14*	.41*	.22*	.05	1											
PA: Effort	228	4.93 (.78)	.12	.45*	.20*	.03	.76*	1										
PA: Connections	228	4.18 (.86)	.06	.12	.17*	.09	.38*	.35*	1									
PA: Luck	228	3.64 (1.24)	.04	-.02	.16*	.50*	.05	-.07	.16*	1								
SPC	230	4.96 (.68)	.02	.32*	.22*	.05	.48*	.51*	.15*	-.03	1							
CPC	230	4.72 (.77)	.03	.29*	.18*	.03	.41*	.46*	.15*	-.03	.71*	1						
SSC	230	5.01 (.92)	-.00	.30*	.19*	.06	.37*	.42*	.15*	.04	.45*	.44*	1					
CSC: Disengage	230	3.19 (1.21)	.12	.07	.09	.10	-.14*	-.14*	-.10	.08	-.08	.01	-.04	1				
CSC: Reengage	230	4.24 (1.01)	-.01	.24*	.19*	.06	.09	.20*	.05	.04	.26*	.29*	.23*	.50*	1			
Career Expectancy	232	3.16 (.76)	.15*	.11	.07	.12	.30*	.26*	.22*	.05	.25*	.25*	.23*	-.10	-.10	1		
Career Value	232	3.59 (.69)	.06	.14*	.05	.10	.16*	.23*	.19*	.03	.22*	.27*	.25*	-.00	.04	.49*	1	
Career Control	232	2.79 (.77)	.12	.05	-.05	.04	.28*	.25*	.22*	.01	.15*	.20*	.15*	-.11	-.11	.66*	.38*	1
Career Satisfaction	229	2.59 (.92)	.13	-.01	-.06	-.07	.31*	.25*	.22*	-.01	.28*	.21*	.14*	-.05	.04	.54*	.25*	.47*

Notes: SB = societal beliefs; PA = personal agency beliefs; SPC = selective primary control; CPC = compensatory primary control; SSC = selective secondary control; CSC: Disengage = compensatory secondary control - disengagement; CSC: Reengage = compensatory secondary control - reengagement. * $p < .05$

Table 19
Study 2 Wave 3 constructs: means, standard deviations and correlations.

	n	M (SD)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Just World Beliefs	210	3.41 (1.23)	1															
SB: Merit	210	4.50 (.78)	.29*	1														
SB: Connections	210	4.93 (.74)	-.15*	.19*	1													
SB: Privilege	210	4.23 (.81)	-.08	-.07	.60*	1												
PA: Ability	213	4.76 (.78)	.09	.36*	.11	-.01	1											
PA: Effort	213	4.93 (.81)	.14*	.44*	.10	-.11	.76*	1										
PA: Connections	213	4.15 (.92)	.06	.11	.09	.07	.38*	.38*	1									
PA: Luck	213	3.71 (1.30)	.03	-.19*	.08	.47*	-.12	-.28*	.19*	1								
SPC	217	4.91 (.75)	.10	.29*	.21*	.03	.51*	.50*	.31*	-.15*	1							
CPC	217	4.70 (.75)	.12	.30*	.13	-.04	.44*	.41*	.40*	-.07	.70*	1						
SSC	216	4.93 (.88)	.18*	.28*	.15*	.08	.36*	.39*	.22*	-.03	.52*	.52*	1					
CSC: Disengage	217	3.16 (1.16)	.03	-.03	.09	.13	-.11	-.09	-.10	.04	-.17*	-.08	-.02	1				
CSC: Reengage	217	4.21 (1.03)	.03	.26*	.11	.02	.23*	.21*	.10	.02	.20*	.27*	.20*	.49*	1			
Career Expectancy	218	3.16 (.69)	.05	.06	.11	-.03	.39*	.33*	.20*	-.20*	.37*	.32*	.33*	-.13	-.02	1		
Career Value	219	3.53 (.69)	-.10	.09	.00	-.00	.15*	.18*	.11	.09	.23*	.24*	.37*	.01	.03	.43*	1	
Career Control	219	2.84 (.68)	.08	.20*	.08	.02	.37*	.34*	.17*	-.11	.37*	.26*	.20*	-.08	.05	.52*	.23*	1
Career Satisfaction	219	2.65 (.94)	.15*	.12	.01	-.08	.43*	.32*	.28*	-.05	.35*	.25*	.19*	-.14*	-.01	.44*	.06	.49*

Notes: SB = societal beliefs; PA = personal agency beliefs; SPC = selective primary control; CPC = compensatory primary control; SSC = selective secondary control; CSC: Disengage = compensatory secondary control - disengagement; CSC: Reengage = compensatory secondary control - reengagement. * $p < .05$

Table 20
Study 2 Wave 4 constructs: means, standard deviations and correlations.

	n	M (SD)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Just World Beliefs	206	3.32 (1.09)	1															
SB: Merit	203	4.53 (.76)	.36*	1														
SB: Connections	203	4.97 (.66)	-.08	.19*	1													
SB: Privilege	203	4.32 (.80)	-.10	-.11	.60*	1												
PA: Ability	205	4.78 (.75)	.21*	.45*	.19*	-.03	1											
PA: Effort	205	4.97 (.77)	.16*	.52*	.22*	-.06	.76*	1										
PA: Connections	205	4.25 (.84)	.07	.19*	.27*	.19*	.49*	.43*	1									
PA: Luck	205	3.85 (1.17)	-.02	-.17*	.22*	.59*	-.03	-.11	.13	1								
SPC	207	4.91 (.74)	.06	.32*	.38*	.14*	.47*	.52*	.25*	.00	1							
CPC	207	4.72 (.80)	.06	.31*	.30*	.11	.41*	.50*	.34*	-.02	.69*	1						
SSC	206	4.97 (.79)	.07	.19*	.27*	.13	.33*	.34*	.12	.05	.52*	.44*	1					
CSC: Disengage	207	3.27 (1.13)	-.03	-.13	-.00	.04	-.04	-.06	.06	.13	-.03	-.03	.01	1				
CSC: Reengage	207	4.32 (.91)	-.04	.21*	.12	.11	.26*	.25*	.09	.13	.25*	.24*	.20*	.52*	1			
Career Expectancy	203	3.23 (.65)	.11	.10	.13	.03	.41*	.34*	.23*	-.06	.37*	.29*	.27*	-.03	.02	1		
Career Value	205	3.57 (.59)	.03	.08	.21*	.16*	.18*	.18*	.06	.03	.20*	.16*	.11	-.01	-.01	.40*	1	
Career Control	207	2.96 (.65)	.12	.20*	.10	-.00	.46*	.36*	.34*	-.06	.31*	.25*	.20*	-.03	.18*	.50*	.13	1
Career Satisfaction	207	2.72 (.94)	.07	.08	.07	-.06	.35*	.23*	.29*	-.06	.31*	.25*	.24*	.08	.09	.42*	.03	.51*

Notes: SB = societal beliefs; PA = personal agency beliefs; SPC = selective primary control; CPC = compensatory primary control; SSC = selective secondary control; CSC: Disengage = compensatory secondary control - disengagement; CSC: Reengage = compensatory secondary control - reengagement. * $p < .05$

Table 21
Study 2 within-construct correlations across wave.

	Waves 1-2	Waves 1-3	Waves 1-4	Waves 2-3	Waves 2-4	Waves 3-4
Just World Beliefs	.58*	.56*	.54*	.62*	.66*	.63*
SB: Merit	.54*	.52*	.60*	.67*	.69*	.74*
SB: Connections	.50*	.42*	.44*	.59*	.49*	.65*
SB: Privilege	.60*	.57*	.56*	.66*	.60*	.69*
PA: Ability	.56*	.51*	.57*	.58*	.58*	.64*
PA: Effort	.57*	.48*	.54*	.59*	.59*	.62*
PA: Connections	.62*	.60*	.56*	.64*	.52*	.65*
PA: Luck	.62*	.59*	.56*	.72*	.65*	.69*
SPC	.63*	.53*	.56*	.65*	.54*	.63*
CPC	.52*	.49*	.47*	.59*	.47*	.62*
SSC	.53*	.48*	.40*	.42*	.40*	.49*
CSC: Disengage	.46*	.36*	.45*	.44*	.40*	.45*
CSC: Reengage	.52*	.36*	.43*	.45*	.41*	.57*
Career goal expectancy	.54*	.39*	.46*	.55*	.54*	.61*
Career Value	.60*	.32*	.31*	.45*	.43*	.53*
Career goal control	.54*	.52*	.48*	.62*	.48*	.56*
Career Satisfaction	.60*	.43*	.53*	.60*	.66*	.70*

Notes: SB = societal beliefs; PA = personal agency beliefs; SPC = selective primary control; CPC = compensatory primary control; SSC = selective secondary control; CSC: Disengage = compensatory secondary control - disengagement; CSC: Reengage = compensatory secondary control - reengagement. * $p < .05$

Research Question 1: How do young adults believe that socioeconomic status is attained in America for people in general, and for themselves personally? *Hypothesis 1: Beliefs about socioeconomic status attainment in America will reflect the dominant ideology of American society.* Hypotheses 1a, 1b, and 1c are assessed using paired sample *t*-tests at each wave in the study. The results of these analyses are discussed below.

Hypothesis 1a: Individuals are expected to believe that they will attain a higher socioeconomic status in the future than they have currently (upward intragenerational social mobility) and than their family-of-origin has (upward intergenerational social mobility). Supporting Hypothesis 1a, the results indicate that participants expect to attain a significantly higher SES than their family-of-origin at each wave in the study (Wave 1 t (283) = 17.06, p < .001; Wave 2 t (230) = 15.05, p < .001; Wave 3 t (217) = 14.79, p < .001; Wave 4 t (206) = 13.75, p < .001). Similarly, participants expect to attain a significantly higher SES in ten years than they currently have at each wave in the study (Wave 1 t (283) = 24.50, p < .001; Wave 2 t (230) = 20.07, p < .001; Wave 3 t (216) = 20.05, p < .001; Wave 4 t (205) = 19.50, p < .001). The difference between participants' present SES and their family-of-origin SES is non-significant at each wave in the study.

Hypothesis 1b: Individuals are expected to endorse meritocratic causal factors as the primary reason why other people have attained a high socioeconomic status in America. Supporting Hypothesis 1b, participants are significantly more likely to endorse merit-oriented causes over privilege-oriented causes for why individuals attain social status in America at each wave in the study (Wave 1 t (280) = 3.05, p < .01; Wave 2 t (223) = 3.19, p < .01; Wave 3 t (209) = 3.30, p < .01; Wave 4 t (203) = 2.65, p < .01). However, participants are significantly more likely to endorse connections-oriented causes for why individuals attain social status in America

over merit-oriented causes at each wave in the study (Wave 1 t (280) = 9.21, $p < .001$; Wave 2 t (223) = 6.29, $p < .001$; Wave 3 t (209) = 6.54, $p < .001$; Wave 4 t (203) = 6.85, $p < .001$), and over privilege-oriented causes at each wave in the study (Wave 1 t (280) = 17.11, $p < .001$; Wave 2 t (223) = 13.25, $p < .001$; Wave 3 t (209) = 14.63, $p < .001$; Wave 4 t (203) = 13.89, $p < .001$). Thus, participants generally view social connections as the primary causal factor for why people in general have attained a high SES in America, followed by merit, and then privilege.

Hypothesis 1c: Individuals are expected to endorse meritocratic causal factors as the primary reason why they themselves will attain their future social status. Supporting Hypothesis 1c, participants are significantly more likely to endorse effort-oriented causes for how they themselves will attain their future social status over ability-oriented causes at each wave in the study (Wave 1 t (280) = 8.86, $p < .001$; Wave 2 t (227) = 5.69, $p < .001$; Wave 3 t (212) = 4.43, $p < .001$; Wave 4 t (204) = 5.15, $p < .001$), and over connections-oriented causes at each wave in the study (Wave 1 t (280) = 14.53, $p < .001$; Wave 2 t (227) = 12.02, $p < .001$; Wave 3 t (212) = 11.80, $p < .001$; Wave 4 t (204) = 11.93, $p < .001$), and over luck-oriented causes at each wave in the study (Wave 1 t (280) = 15.37, $p < .001$; Wave 2 t (227) = 12.88, $p < .001$; Wave 3 t (212) = 10.42, $p < .001$; Wave 4 t (204) = 10.85, $p < .001$). Similarly, participants are significantly more likely to endorse ability-oriented causes for how they themselves will attain their future social status over connections-oriented causes at each wave in the study (Wave 1 t (280) = 10.49, $p < .001$; Wave 2 t (227) = 9.18, $p < .001$; Wave 3 t (212) = 9.43, $p < .001$; Wave 4 t (204) = 9.39, $p < .001$), and over luck-oriented causes at each wave in the study (Wave 1 t (280) = 13.07, $p < .001$; Wave 2 t (227) = 11.63, $p < .001$; Wave 3 t (212) = 9.64, $p < .001$; Wave 4 t (204) = 9.39, $p < .001$). Finally, the results indicate that participants are significantly more likely to endorse connections-oriented causes for how they themselves will attain their future social status over

luck-oriented causes at each wave in the study (Wave 1 t (280) = 7.83, $p < .001$; Wave 2 t (227) = 5.91, $p < .001$; Wave 3 t (212) = 4.44, $p < .001$; Wave 4 t (204) = 4.22, $p < .001$). Thus, participants believe that their effort is the most important causal factor for their own future SES attainment, followed by ability, then social connections, and finally luck.

Collectively these mean-level differences are generally consistent with the findings from Study 1. The results support Hypotheses 1a, 1b, and 1c by indicating that participants' beliefs about social mobility and SES attainment are generally in line with the dominant American ideology of intra- and intergenerational upward social mobility attained primarily through individual merit. However, contrary to expectations, participants endorse social connections as the primary cause of other individuals' attainment of SES in America.

Next, demographic differences (gender, age, ethnicity, and family-of-origin SES) in participants' just world beliefs, societal beliefs, and personal agency beliefs are examined. The results indicate that women have significantly lower just world beliefs at Wave 1, and significantly higher ability-oriented personal agency beliefs at Wave 3. No other gender differences are observed. Regarding ethnic differences, participants of Latino/a ethnicity report significantly higher connections-oriented societal beliefs than participants of White and Asian ethnicity at Waves 3 and 4. Participants of Latino/a ethnicity also report significantly higher effort- and connections-oriented personal agency beliefs than participants of Asian ethnicity at Wave 1. Participants of mixed/other ethnicity report significantly higher effort-oriented personal agency beliefs than participants of Asian ethnicity at Wave 1. No other ethnic differences are observed. There is a significant positive association between participants' family-of-origin SES and their connections-oriented personal agency beliefs at Waves 2, 3, and 4. There is also a significant negative association between participants' family-of-origin SES and their

connections-oriented societal beliefs at Wave 3. There is a significant positive association between participants' family-of-origin SES and their merit-oriented societal beliefs at Waves 3 and 4. Finally, there is a significant positive association between participants' family-of-origin SES and both their ability-oriented personal agency beliefs and just world beliefs at Wave 4. No other family-of-origin SES associations are observed. There is a significant negative association between participants' age and their luck-oriented personal agency beliefs at Wave 1. No other age associations are observed.

Model Testing

Research Question 2: How are young adults' beliefs about the fairness of the world related to their beliefs about how socioeconomic status is attained by other people in American society, and how are these beliefs subsequently related with the factors they identify as causal to their own socioeconomic status attainment?

Hypothesis 2a: *Young adults whose family has a higher socioeconomic status, and who currently have a higher personal socioeconomic status will be more likely to believe that the world is fair and just.* Model testing is performed in the sequence described in the plan for analyses section on page 89. The results are discussed below, and presented in Table 22.

As seen in Table 22, participants' present SES (B = .05 (.02), p < .05), and family-of-origin SES (B = .04 (.02), p < .05), are significantly positively associated with their beliefs that the world is just. However these relationships become non-significant when controlling for the other variables in the model. Regarding demographic differences, in Model 5 men report significantly stronger just world beliefs; however, this relationship is not present in any of the other models. Similarly, in Model 5 only, participants who are making more money from their

job report significantly higher just world beliefs. In Models 5 and 6, participants of Latino/a ethnicity report lower just world beliefs, but significantly steeper increases in these beliefs over time than participants of White ethnicity. This relationship indicates a regression to the mean. Finally, in Model 6 only, participants who graduated with a major that has a high unemployment rate report significantly greater just world beliefs. Regarding interactions between the main predictor (family-of-origin SES) and participant demographics, participants of mixed/other ethnicity report significantly greater increases in their just world beliefs over time when coming from a low-SES family background than participants of White ethnicity. The interaction between participants' family-of-origin SES and their gender and age on the slope of their just world beliefs is non-significant.

Collectively, the predictors explain some within-person and slope variance. The results provide limited support for Hypothesis 2a, and indicate that participants who have a higher present SES and family-of-origin SES tend to be more likely to believe that the world is fair and just.

Table 22
Results of multilevel model analyses predicting participants' just world beliefs.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	3.31 (.07)*	Varies	3.36 (.17)*	3.26 (.07)*	Varies	3.43 (.19)*
Slope				.04 (.02)	Varies	-.04 (.07)
Present SES [a]		.05 (.02)*	.04 (.03)		.06 (.03)*	.05 (.04)
Family-of-origin SES [a]		.04 (.02)*	.03 (.03)		.04 (.02)	.02 (.03)
Female		-.19 (.12)	-.03 (.14)		-.27 (.13)*	-.09 (.15)
Age [a]		-.04 (.03)	-.05 (.04)		-.04 (.03)	-.05 (.04)
Ethnicity (White reference group)						

Asian		.04 (.15)	.07 (.18)		-.02 (.17)	.05 (.20)
Latino/a		-.22 (.21)	-.04 (.24)		-.52 (.23)*	-.32 (.27)
Mixed / Other		-.19 (.18)	-.25 (.20)		-.26 (.20)	-.28 (.22)
Attending graduate school		-.08 (.11)	-.04 (.12)		.05 (.20)	.09 (.22)
Undergraduate GPA [a]		-.12 (.14)	-.15 (.15)		-.01 (.16)	.00 (.17)
Major: Unemployment Rate [a]		.02 (.05)	.11 (.06)		.02 (.06)	.14 (.07)*
Major: Income [a]		.01 (.01)	.01 (.01)		.01 (.01)	.02 (.01)
Work: Income [a]		.03 (.02)	.01 (.02)		.06 (.03)*	.02 (.04)
Work helps career goals [a]		.03 (.03)	.04 (.04)		.04 (.04)	.06 (.05)
Fixed Effects - Slope						
Present SES [a]					-.01 (.02)	-.01 (.02)
Family-of-origin SES [a]					-.00 (.01)	.01 (.01)
Female					.07 (.05)	.05 (.05)
Age [a]					-.00 (.01)	-.00 (.01)
Ethnicity (White reference group)						
Asian					.05 (.06)	.01 (.07)
Latino/a					.23 (.08)*	.18 (.09)*
Mixed / Other					.06 (.07)	.02 (.07)
Attending graduate school					-.10 (.09)	-.08 (.10)
Undergraduate GPA [a]					-.08 (.05)	-.10 (.06)
Major: Unemployment Rate [a]					.00 (.02)	-.02 (.02)
Major: Income [a]					-.00 (.00)	-.00 (.00)
Work: Income [a]					-.02 (.01)	-.00 (.02)
Work helps career goals [a]					-.01 (.02)	-.02 (.03)
Random Effects						
Variance Slope				.02 (.01)	Varies	.01 (.01)
Between-person variance	.77 (.09)	Varies	.69 (.08)	.80 (.11)	Varies	.69 (.10)
Within-person variance	.50 (.03)	Varies	.50 (.03)	.47 (.03)	Varies	.46 (.03)
Model Fit Statistics						

Deviance	2021.87	Varies	1999.34	2017.46	Varies	1980.46
AIC	2027.87	Varies	2031.34	2029.46	Varies	2044.46
BIC	2041.77	Varies	2105.46	2057.26	Varies	2192.68
Number of Participants	212	Varies	212	212	Varies	212
Observations	759	Varies	759	759	Varies	759

Notes: * $p < .05$. [a] Grand-mean centered. Predictors entered individually in Models 2 and 5.

Hypothesis 2b: *Perceptions that society is fair and just will be positively associated with young adults' endorsement of merit-oriented societal beliefs for socioeconomic status attainment. Conversely, perceptions that society is unfair and unjust will be positively associated with individuals' endorsement of privilege/fatalistic- and social connections-oriented societal beliefs for socioeconomic status attainment.* Model testing is performed in the sequence described in the plan for analyses section on page 89. The results are discussed below, and presented in Tables 23, 24, and 25.

As seen in Table 23, just world beliefs are significantly positively associated with merit-oriented societal beliefs ($B = .13$ (.02), $p < .05$). Regarding demographic differences, the results indicate that individuals who have higher present SES, report marginally lower merit-oriented societal beliefs, but significantly steeper increases in these beliefs over time. Model 6 indicates that women report marginally higher merit-oriented societal beliefs, but significantly steeper decreases in these beliefs over time than men do. Finally, Model 5 indicates that participants of mixed/other ethnicity report marginally lower merit-oriented societal beliefs, but significantly steeper increases in these beliefs over time than participants of White ethnicity do. There are no significant interactions between the main predictor variable (just world beliefs) and participants' gender, ethnicity, age, or family-of-origin SES on the slope of their merit-oriented societal beliefs over time.

As seen in Table 24, just world beliefs are not associated with privilege-oriented societal beliefs, with the exception of Model 6 which indicates that participants with higher just world beliefs report relatively lower levels of privilege-oriented societal beliefs, but steeper increases in these beliefs over time. However, this relationship indicates a regression to the mean. There are no demographic differences, but Model 5 indicates that participants who graduate with a major that has a high unemployment rate report slightly lower privilege-oriented societal beliefs, but significantly steeper increases in these beliefs over time. There are no significant interactions between the main predictor variable (just world beliefs) and participants' gender, ethnicity, age, or family-of-origin SES on the slope of their privilege-oriented societal beliefs over time.

As seen in Table 25, when entered without covariates, just world beliefs are significantly negatively associated with connections-oriented societal beliefs (B = -.06 (.02), $p < .05$). Regarding demographics, participants of Latino/a ethnicity report higher levels of connections-oriented societal beliefs, and steeper increases in these beliefs over time. Women report marginally higher connections-oriented societal beliefs, but steeper declines in these beliefs over time. Participants' present SES has a more complex relationship, as in Model 5 it is associated with higher levels of connections-oriented societal beliefs; however, in Model 6 when controlling for the other covariates, participants' present SES is associated with lower levels of connections-oriented societal beliefs but steeper increases in these beliefs over time. Again, as the associations with the intercept and slope are of opposite signs, this association indicates a regression to the mean. There are no significant interactions between the main predictor variable (just world beliefs) and participants' gender, ethnicity, age, or family-of-origin SES on the slope of their connections-oriented societal beliefs over time.

The predictors explain some between-person variance in each model. Additionally, predictors explain some of the within-person variance in merit-oriented societal beliefs, and some of the variance in the slope of merit-and connections-oriented societal beliefs. The results provide moderate support for Hypothesis 2b, and indicate that participants who believe that the world is just report enhanced merit-oriented societal beliefs, and tend to report diminished connections-oriented societal beliefs. Similar to Study 1, the results indicate that the relationship between participants' just world beliefs and their privilege-oriented societal beliefs is non-significant.

Table 23
Results of multilevel model analyses predicting participants' merit-oriented societal beliefs.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	4.49 (.05)*	Varies	4.36 (.12)*	4.46 (.05)*	Varies	4.27 (.14)*
Slope				.02 (.02)	Varies	.07 (.04)
Just World Beliefs [a]		.13 (.02)*	.13 (.02)*		.11 (.03)*	.09 (.03)*
Present SES [a]		.03 (.02)	.03 (.02)		-.01 (.02)	-.02 (.02)
Family-of-origin SES [a]		.03 (.01)	.01 (.02)		.03 (.02)	.02 (.02)
Female		.08 (.09)	.08 (.10)		.15 (.10)	.18 (.11)
Age [a]		.01 (.02)	.03 (.03)		.01 (.02)	.03 (.03)
Ethnicity (White reference group)						
Asian		.14 (.11)	.20 (.12)		.09 (.13)	.22 (.14)
Latino/a		.08 (.16)	.10 (.17)		.06 (.17)	.12 (.19)
Mixed / Other		.00 (.13)	-.01 (.14)		-.13 (.15)	-.08 (.16)
Attending graduate school		-.09 (.08)	-.15 (.08)		-.10 (.14)	-.21 (.14)
Undergraduate GPA [a]		.03 (.10)	.03 (.10)		.09 (.11)	.09 (.12)
Major: Unemployment Rate [a]		-.02 (.04)	-.01 (.04)		-.02 (.04)	-.01 (.05)
Major: Income [a]		.00 (.00)	-.00 (.01)		.00 (.01)	-.00 (.01)

Work: Income [a]		.01 (.01)	.02 (.02)		.01 (.02)	.04 (.03)
Work helps career goals [a]		-.00 (.02)	-.02 (.02)		-.04 (.03)	-.06 (.04)
Fixed Effects - Slope						
Just World Beliefs [a]					.02 (.01)	.03 (.02)
Present SES [a]					.03 (.01)*	.03 (.01)*
Family-of-origin SES [a]					-.00 (.01)	-.01 (.01)
Female					-.06 (.03)	-.07 (.03)*
Age [a]					.00 (.01)	-.00 (.01)
Ethnicity (White reference group)						
Asian					.04 (.04)	-.02 (.04)
Latino/a					.02 (.06)	-.02 (.06)
Mixed / Other					.11 (.05)*	.05 (.05)
Attending graduate school					-.02 (.06)	.01 (.01)
Undergraduate GPA [a]					-.05 (.04)	-.03 (.04)
Major: Unemployment Rate [a]					.00 (.01)	.00 (.02)
Major: Income [a]					.00 (.00)	-.00 (.00)
Work: Income [a]					.00 (.01)	-.01 (.01)
Work helps career goals [a]					.02 (.01)	.02 (.02)
Random Effects						
Variance Slope				.01 (.01)	Varies	.00 (.01)
Between-person variance	.41 (.05)	Varies	.35 (.04)	.42 (.06)	Varies	.38 (.05)
Within-person variance	.22 (.01)	Varies	.21 (.01)	.20 (.02)	Varies	.20 (.01)
Model Fit Statistics						
Deviance	1418.73	Varies	1373.31	1414.06	Varies	1348.03
AIC	1424.73	Varies	1407.31	1426.06	Varies	1416.03
BIC	1438.61	Varies	1485.99	1453.83	Varies	1573.38
Number of Participants	211	Varies	211	211	Varies	211
Observations	756	Varies	756	756	Varies	756

Notes: * $p < .05$. [a] Grand-mean centered. Predictors entered individually in Models 2 and 5.

Table 24

Results of multilevel model analyses predicting participants' privilege-oriented societal beliefs.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	4.27 (.05)*	Varies	4.20 (.13)*	4.24 (.05)*	Varies	4.14 (.14)*
Slope				.03 (.02)	Varies	.05 (.05)
Just World Beliefs [a]		-.02 (.02)	-.02 (.03)		-.04 (.03)	-.07 (.03)
Present SES [a]		.01 (.02)	.01 (.02)		-.01 (.02)	-.02 (.02)
Family-of-origin SES [a]		-.01 (.01)	-.00 (.02)		-.02 (.02)	-.02 (.02)
Female		-.02 (.09)	-.11 (.10)		.03 (.10)	-.03 (.11)
Age [a]		-.01 (.02)	-.00 (.03)		-.02 (.02)	-.02 (.03)
Ethnicity (White reference group)						
Asian		.12 (.11)	.22 (.13)		.12 (.13)	.21 (.15)
Latino/a		.09 (.16)	.22 (.18)		.03 (.17)	.06 (.20)
Mixed / Other		-.04 (.13)	.14 (.15)		-.15 (.14)	.05 (.16)
Attending graduate school		.00 (.08)	-.05 (.08)		.05 (.14)	-.06 (.14)
Undergraduate GPA [a]		.14 (.10)	.12 (.11)		.17 (.11)	.17 (.12)
Major: Unemployment Rate [a]		.01 (.04)	.02 (.05)		-.03 (.04)	-.01 (.05)
Major: Income [a]		-.00 (.00)	-.00 (.01)		.00 (.01)	.00 (.01)
Work: Income [a]		-.00 (.01)	.02 (.02)		-.00 (.02)	-.01 (.03)
Work helps career goals [a]		-.00 (.02)	-.01 (.03)		.01 (.03)	.02 (.04)
Fixed Effects - Slope						
Just World Beliefs [a]					.01 (.01)	.03 (.02)*
Present SES [a]					.01 (.01)	.02 (.02)
Family-of-origin SES [a]					.01 (.01)	.01 (.01)
Female					-.04 (.03)	-.05 (.04)
Age [a]					.01 (.01)	.01 (.01)
Ethnicity (White reference group)						
Asian					-.00 (.04)	-.00 (.05)
Latino/a					.05 (.06)	.10 (.06)

Mixed / Other					.09 (.05)	.06 (.05)
Attending graduate school					-.05 (.06)	-.03 (.07)
Undergraduate GPA [a]					-.03 (.03)	-.02 (.04)
Major: Unemployment Rate [a]					.03 (.01)*	.02 (.02)
Major: Income [a]					-.00 (.00)	-.00 (.00)
Work: Income [a]					-.01 (.01)	-.00 (.01)
Work helps career goals [a]					-.01 (.01)	-.03 (.02)
Random Effects						
Variance Slope				.01 (.01)	Varies	.01 (.01)
Between-person variance	.42 (.05)	Varies	.41 (.05)	.44 (.06)	Varies	.42 (.06)
Within-person variance	.23 (.01)	Varies	.23 (.01)	.20 (.02)	Varies	.20 (.02)
Model Fit Statistics						
Deviance	1447.68	Varies	1440.39	1438.59	Varies	1409.68
AIC	1453.68	Varies	1474.39	1450.59	Varies	1447.68
BIC	1467.57	Varies	1553.06	1478.36	Varies	1635.03
Number of Participants	211	Varies	211	211	Varies	211
Observations	756	Varies	756	756	Varies	756

Notes: * $p < .05$. [a] Grand-mean centered. Predictors entered individually in Models 2 and 5.

Table 25
Results of multilevel model analyses predicting participants' connections-oriented societal beliefs.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	4.96 (.04)*	Varies	4.87 (.11)*	4.96 (.05)*	Varies	4.79 (.13)*
Slope				.00 (.02)	Varies	.07 (.05)
Just World Beliefs [a]		-.06 (.02)*	-.04 (.02)		-.07 (.03)*	-.06 (.04)
Present SES [a]		.00 (.02)	.00 (.02)		.06 (.03)*	-.05 (.03)*
Family-of-origin SES [a]		-.02 (.01)	-.01 (.02)		-.02 (.02)	.01 (.02)
Female		.08 (.08)	-.01 (.09)		.17 (.09)	.14 (.10)
Age [a]		.01 (.02)	-.00 (.02)		.00 (.02)	-.01 (.03)

Ethnicity (White reference group)						
Asian		-.06 (.10)	.07 (.11)		-.06 (.12)	.09 (.13)
Latino/a		.32 (.14)*	.40 (.15)*		.18 (.17)	.19 (.18)
Mixed / Other		-.12 (.12)	.10 (.12)		-.24 (.14)	-.00 (.15)
Attending graduate school		-.02 (.08)	-.08 (.08)		.15 (.15)	.12 (.15)
Undergraduate GPA		.15 (.09)	.15 (.09)		.19 (.10)	.17 (.11)
Major: Unemployment Rate [a]		.04 (.03)	.04 (.04)		.03 (.04)	.05 (.05)
Major: Income [a]		-.01 (.00)	.00 (.01)		-.01 (.00)	.00 (.01)
Work: Income [a]		-.01 (.01)	.00 (.02)		-.02 (.02)	.00 (.03)
Work helps career goals [a]		-.00 (.02)	.01 (.03)		-.01 (.03)	-.01 (.04)
Fixed Effects - Slope						
Just World Beliefs [a]					.01 (.02)	.02 (.02)
Present SES [a]					.02 (.01)	.04 (.01)*
Family-of-origin SES [a]					-.01 (.01)	-.01 (.01)
Female					-.07 (.04)*	-.10 (.04)*
Age [a]					.01 (.01)	.01 (.01)
Ethnicity (White reference group)						
Asian					.01 (.05)	-.02 (.05)
Latino/a					.11 (.06)	.14 (.06)*
Mixed / Other					.10 (.05)*	.07 (.05)
Attending graduate school					-.10 (.07)	-.13 (.07)
Undergraduate GPA					-.03 (.04)	-.01 (.04)
Major: Unemployment Rate [a]					.01 (.01)	-.01 (.02)
Major: Income [a]					-.00 (.00)	-.00 (.01)
Work: Income [a]					.00 (.01)	-.00 (.01)
Work helps career goals [a]					.01 (.01)	.01 (.02)
Random Effects						
Variance Slope				.02 (.01)	Varies	.01 (.01)
Between-person variance	.28 (.03)	Varies	.25 (.03)	.33 (.05)	Varies	.30 (.05)

Within-person variance	.25 (.02)	Varies	.25 (.02)	.22 (.02)	Varies	.22 (.02)
Model Fit Statistics						
Deviance	1436.10	Varies	1420.25	1430.10	Varies	1386.66
AIC	1442.10	Varies	1454.25	1442.10	Varies	1454.66
BIC	1455.98	Varies	1532.92	1469.87	Varies	1612.02
Number of Participants	211	Varies	211	211	Varies	211
Observations	756	Varies	756	756	Varies	756

Notes: * $p < .05$. [a] Grand-mean centered. Predictors entered individually in Models 2 and 5.

Hypothesis 2c: Personal agency beliefs for socioeconomic status attainment will reflect individuals' societal beliefs for socioeconomic status attainment. Personal agency beliefs regarding merit are expected to be endorsed by individuals who view socioeconomic status in America as being attained primarily through individual merit. Personal agency beliefs regarding luck are expected to be endorsed by individuals who view socioeconomic status in America as being primarily attained through unearned or fatalistic means. Personal agency beliefs regarding social connections are expected to be endorsed by individuals who view socioeconomic status in America as being primarily attained through social connections.

Model testing is performed in the sequence described in the plan for analyses section on page 88. Collectively, the results provide strong support for Hypothesis 2c and are depicted below in Figure 6. The results are further discussed below, and presented in Tables 26, 27, 28, and 29.

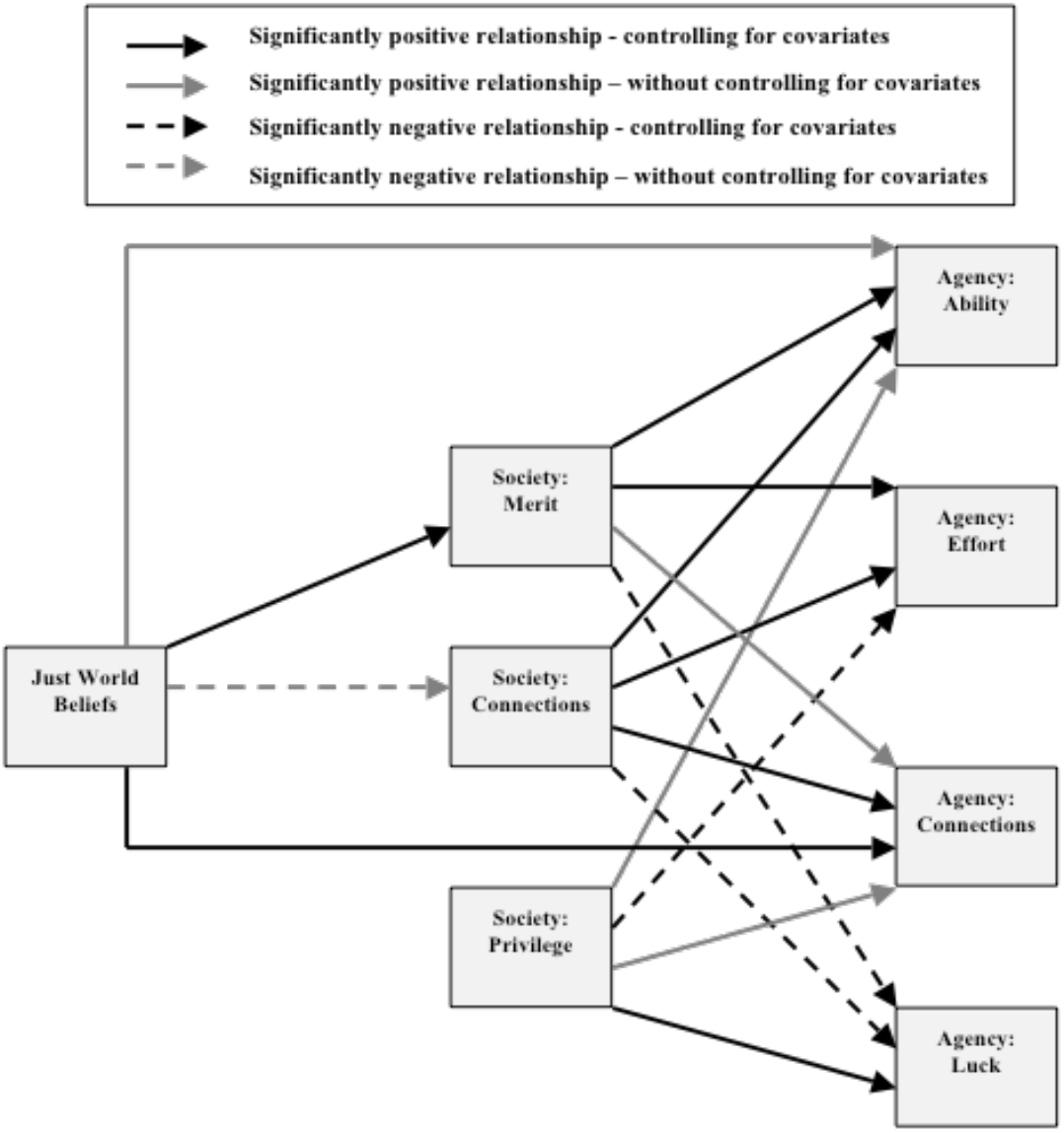

Figure 6. Results for two legs of the hypothesized model depicting the relationships between participants' just world beliefs, societal beliefs, and their personal agency beliefs.

Ability-oriented personal agency beliefs. As seen in Table 26, participants' merit-oriented societal beliefs (B = .26 (.04), p < .05), and connections-oriented societal beliefs (B = .12 (.04), p < .05) are both significantly positively associated with their ability-oriented personal agency

beliefs. Interestingly, participants' privilege-oriented societal beliefs are also significantly positively associated with their ability-oriented personal agency beliefs; however this relationship becomes non-significant with the addition of the other covariates to the model. In addition, participants' major-specific unemployment rate is significantly negatively associated with their ability-oriented personal agency beliefs (B = -.08 (.04), $p < .05$), when controlling for the other covariates in the model. The degree to which individuals believe that their current work is helping them to attain their career goals is significantly positively associated with their ability-oriented personal agency beliefs, (B = .06 (.03), $p < .05$). However, this relationship becomes non-significant when controlling for the other variables in the model. Women report marginally lower levels of ability-oriented personal agency beliefs, but steeper increases in these beliefs over time. There are no significant interactions between the main predictor variable (merit-oriented societal beliefs) and participants' gender, ethnicity, age, or family-of-origin SES on the slope of their ability-oriented personal agency beliefs over time.

Collectively, the predictors account for substantial between-person variance, some within-person variance, and some slope variance. The results provide strong support for Hypothesis 2c, and indicate that participants who hold high merit-oriented societal beliefs also report enhanced merit-oriented personal agency beliefs, in this case ability.

Table 26
Results of multilevel model analyses predicting participants' ability-oriented personal agency beliefs.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	4.78 (.04)*	Varies	4.80 (.10)*	4.77 (.05)*	Varies	4.81 (.12)*
Slope				.00 (.02)	Varies	-.01 (.04)
Societal Beliefs: Merit [a]		.28 (.03)*	.26 (.04)*		.25 (.04)*	.24 (.05)*

Societal Beliefs: Privilege [a]	.09 (.03)*	-.03 (.04)	.13 (.04)*	-.03 (.05)
Societal Beliefs: Connections [a]	.18 (.03)*	.11 (.04)*	.21 (.04)*	.18 (.06)*
Just World Beliefs [a]	.05 (.02)*	.03 (.02)	.04 (.03)	.02 (.03)
Present SES [a]	.05 (.01)*	.03 (.02)	.03 (.02)	.05 (.02)*
Family-of-origin SES [a]	.01 (.01)	-.01 (.02)	-.00 (.02)	-.02 (.02)
Female	-.00 (.08)	.04 (.08)	-.10 (.09)	-.09 (.10)
Age [a]	.03 (.02)	.02 (.02)	.03 (.02)	.02 (.03)
Ethnicity (White reference group)				
Asian	-.19 (.10)	-.17 (.10)	-.14 (.11)	-.12 (.12)
Latino/a	.14 (.14)	.15 (.13)	.27 (.15)	.25 (.16)
Mixed / Other	.01 (.12)	.03 (.11)	.09 (.13)	.16 (.14)
Attending graduate school	.03 (.07)	-.01 (.08)	.11 (.14)	.14 (.14)
Undergraduate GPA	.06 (.09)	.08 (.08)	.08 (.11)	.10 (.10)
Major: Unemployment Rate [a]	-.06 (.03)	-.08 (.04)*	-.07 (.04)	-.10 (.04)*
Major: Income [a]	.00 (.00)	-.00 (.00)	.00 (.00)	-.00 (.01)
Work: Income [a]	.02 (.01)	-.00 (.02)	.01 (.02)	-.00 (.03)
Work helps career goals [a]	.05 (.02)*	.03 (.02)	.02 (.03)	-.02 (.04)
Fixed Effects - Slope				
Societal Beliefs: Merit [a]			.02 (.02)	.02 (.02)
Societal Beliefs: Privilege [a]			-.03 (.02)	.01 (.03)
Societal Beliefs: Connections [a]			-.03 (.02)	-.04 (.03)
Just World Beliefs [a]			.01 (.01)	.00 (.02)
Present SES [a]			.01 (.01)	-.01 (.01)
Family-of-origin SES [a]			.01 (.01)	.01 (.01)
Female			.08 (.03)*	.08 (.03)*
Age [a]			-.00 (.01)	-.01 (.01)
Ethnicity (White reference group)				
Asian			-.04 (.04)	-.04 (.04)
Latino/a			-.10 (.06)	-.07 (.06)

Mixed / Other					-.06 (.05)	-.10 (.05)
Attending graduate school					-.05 (.06)	-.06 (.07)
Undergraduate GPA					-.01 (.04)	-.01 (.04)
Major: Unemployment Rate [a]					.01 (.01)	.02 (.02)
Major: Income [a]					-.00 (.00)	.00 (.00)
Work: Income [a]					.01 (.01)	.00 (.01)
Work helps career goals [a]					.03 (.01)*	.04 (.02)*
Random Effects						
Variance Slope				.01 (.01)	Varies	.00 (.01)
Between-person variance	.30 (.04)	Varies	.19 (.03)	.32 (.05)	Varies	.23 (.04)
Within-person variance	.23 (.01)	Varies	.22 (.01)	.21 (.02)	Varies	.20 (.02)
Model Fit Statistics						
Deviance	1399.11	Varies	1297.65	1394.73	Varies	1271.25
AIC	1405.11	Varies	1337.65	1406.73	Varies	1351.25
BIC	1418.99	Varies	1430.19	1434.49	Varies	1536.32
Number of Participants	211	Varies	211	211	Varies	211
Observations	755	Varies	755	755	Varies	755

Notes: * $p < .05$. [a] Grand-mean centered. Predictors entered individually in Models 2 and 5.

Effort-oriented personal agency beliefs. As seen in Table 27, participants' merit-oriented societal beliefs ($B = .33$ (.04), $p < .05$), and connections-oriented societal beliefs ($B = .17$ (.04), $p < .05$), are both significantly positively associated with their effort-oriented personal agency beliefs. In addition, participants' privilege-oriented societal beliefs are significantly negatively associated with their effort-oriented personal agency beliefs ($B = -.13$ (.04), $p < .05$), while controlling for the other covariates in the model. In addition, participants' major-specific unemployment rate is significantly negatively associated with their effort-oriented personal agency beliefs ($B = -.08$ (.04), $p < .05$), when controlling for the other covariates in the model. There is also a significant time by work-helps-career-goals interaction ($B = .05$ (.02), $p < .05$),

indicating that individuals who are working at a job that helps their career goals have steeper increases in their effort-oriented personal agency beliefs over time. Model 6 indicates that individuals of mixed/other ethnicity report marginally higher levels of effort-oriented personal agency beliefs, but steeper decreases in these beliefs over time. There are no significant interactions between the main predictor variable (merit-oriented societal beliefs) and participants' gender, ethnicity, age, or family-of-origin SES on the slope of their effort-oriented personal agency beliefs over time.

Collectively, the predictors account for substantial between-person variance, some within-person variance, and some slope variance. The results provide strong support for Hypothesis 2c, and indicate that participants who hold high merit-oriented societal beliefs also report enhanced merit-oriented personal agency beliefs, in this case effort.

Table 27
Results of multilevel model analyses predicting participants' effort-oriented personal agency beliefs.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	4.99 (.05)*	Varies	5.00 (.10)*	5.02 (.05)*	Varies	4.99 (.12)*
Slope				-.03 (.02)	Varies	.00 (.05)
Societal Beliefs: Merit [a]		.36 (.03)*	.33 (.04)*		.32 (.04)*	.28 (.05)*
Societal Beliefs: Privilege [a]		.02 (.03)	-.13 (.04)*		.07 (.04)	-.11 (.06)*
Societal Beliefs: Connections [a]		.17 (.03)*	.12 (.04)*		.23 (.04)*	.16 (.06)*
Just World Beliefs [a]		.04 (.02)	.01 (.02)		.00 (.03)	.01 (.04)
Present SES [a]		.03 (.02)	.01 (.02)		.00 (.02)	.01 (.03)
Family-of-origin SES [a]		.00 (.01)	-.02 (.02)		-.01 (.02)	-.02 (.02)
Female		.05 (.08)	.01 (.08)		.07 (.09)	.00 (.10)
Age [a]		.01 (.02)	-.00 (.02)		.03 (.02)	.01 (.03)

Ethnicity (White reference group)				
Asian	-.13 (.10)	-.12 (.10)	-.15 (.12)	-.13 (.13)
Latino/a	.09 (.14)	.08 (.14)	.22 (.16)	.15 (.17)
Mixed / Other	.07 (.12)	.09 (.12)	.15 (.13)	.24 (.14)
Attending graduate school	-.03 (.08)	-.01 (.08)	.06 (.14)	.14 (.15)
Undergraduate GPA	.15 (.10)	.16 (.09)	.18 (.11)	.16 (.11)
Major: Unemployment Rate [a]	-.04 (.04)	-.08 (.04)*	-.03 (.04)	-.09 (.05)
Major: Income [a]	-.00 (.00)	-.01 (.00)	-.01 (.01)	-.01 (.01)
Work: Income [a]	-.01 (.01)	-.03 (.02)	-.01 (.02)	-.01 (.03)
Work helps career goals [a]	.02 (.02)	.04 (.02)	-.02 (.03)	-.03 (.04)
Fixed Effects - Slope				
Societal Beliefs: Merit [a]			.03 (.02)	.03 (.02)
Societal Beliefs: Privilege [a]			-.03 (.02)	.01 (.03)
Societal Beliefs: Connections [a]			-.05 (.02)*	-.03 (.03)
Just World Beliefs [a]			.03 (.01)	.00 (.02)
Present SES [a]			.02 (.01)	.00 (.01)
Family-of-origin SES [a]			.01 (.01)	.00 (.01)
Female			-.02 (.03)	-.01 (.01)
Age [a]			-.01 (.01)	-.01 (.01)
Ethnicity (White reference group)				
Asian			.02 (.04)	.01 (.05)
Latino/a			-.10 (.06)	-.05 (.06)
Mixed / Other			-.07 (.05)	-.11 (.05)*
Attending graduate school			-.03 (.07)	-.05 (.07)
Undergraduate GPA			-.02 (.04)	-.01 (.04)
Major: Unemployment Rate [a]			-.01 (.01)	.01 (.02)
Major: Income [a]			.00 (.00)	.00 (.00)
Work: Income [a]			.00 (.01)	-.01 (.01)
Work helps career goals [a]			.03 (.01)*	.05 (.02)*

Random Effects						
Variance Slope				.02 (.01)	Varies	.01 (.01)
Between-person variance	.35 (.04)	Varies	.21 (.03)	.40 (.06)	Varies	.27 (.05)
Within-person variance	.25 (.02)	Varies	.24 (.01)	.23 (.02)	Varies	.22 (.02)
Model Fit Statistics						
Deviance	1479.04	Varies	1360.24	1470.58	Varies	1332.04
AIC	1485.04	Varies	1400.24	1482.58	Varies	1412.04
BIC	1498.92	Varies	1492.78	1510.34	Varies	1597.11
Number of Participants	211	Varies	211	211	Varies	211
Observations	755	Varies	755	755	Varies	755

Notes: * $p < .05$. [a] Grand-mean centered. Predictors entered individually in Models 2 and 5.

Luck-oriented personal agency beliefs. As seen in Table 28, participants' privilege-oriented societal beliefs are significantly positively associated with their luck-oriented personal agency beliefs ($B = .66$ (.06), $p < .05$). In addition, participants' merit-oriented societal beliefs ($B = -.14$ (.06), $p < .05$), and connections-oriented societal beliefs ($B = -.15$ (.06), $p < .05$) are significantly negatively associated with their luck-oriented personal agency beliefs. Regarding demographic differences, participants of Asian ethnicity, younger participants, and surprisingly, participants with higher undergraduate GPA have significantly higher luck-oriented personal agency beliefs. There are no significant interactions between the main predictor variable (privilege-oriented societal beliefs) and participants' gender, ethnicity, age, or family-of-origin SES on the slope of their luck-oriented personal agency beliefs over time.

Collectively, the predictors account for substantial between-person variance, some within-person variance, and some slope variance. The results provide strong support for Hypothesis 2c, and indicate that participants who hold high privilege-oriented societal beliefs also report enhanced luck-oriented personal agency beliefs.

Table 28
Results of multilevel model analyses predicting participants' luck-oriented personal agency beliefs.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	3.74 (.07)*	Varies	3.65 (.16)*	3.63 (.09)*	Varies	3.44 (.20)*
Slope				.07 (.03)*	Varies	.17 (.07)*
Societal Beliefs: Merit [a]		-.09 (.05)	-.14 (.06)*		-.10 (.06)	-.13 (.08)
Societal Beliefs: Privilege [a]		.53 (.05)*	.66 (.06)*		.46 (.06)*	.53 (.09)*
Societal Beliefs: Connections [a]		.13 (.05)*	-.15 (.06)*		.10 (.06)	-.11 (.09)
Just World Beliefs [a]		.05 (.03)	.02 (.04)		.04 (.05)	.02 (.05)
Present SES [a]		.04 (.02)	.01 (.03)		.05 (.03)	.06 (.04)
Family-of-origin SES [a]		.03 (.02)	.02 (.02)		.02 (.03)	-.00 (.03)
Female		-.18 (.14)	-.16 (.13)		-.18 (.15)	-.17 (.16)
Age [a]		-.10 (.03)*	-.03 (.03)		-.13 (.04)*	-.06 (.04)
Ethnicity (White reference group)						
Asian		.42 (.17)*	.29 (.17)		.54 (.19)*	.42 (.20)*
Latino/a		.02 (.24)	.17 (.22)		.17 (.26)	.33 (.28)
Mixed / Other		.07 (.20)	.05 (.18)		.23 (.22)	.31 (.23)
Attending graduate school		.02 (.12)	.00 (.12)		.03 (.20)	.02 (.21)
Undergraduate GPA		.31 (.16)	.30 (.14)*		.31 (.18)	.36 (.17)*
Major: Unemployment Rate [a]		-.07 (.06)	-.02 (.06)		-.10 (.06)	-.02 (.07)
Major: Income [a]		.01 (.01)	.00 (.01)		.01 (.01)	.01 (.01)
Work: Income [a]		.00 (.02)	.03 (.02)		-.02 (.03)	.01 (.04)
Work helps career goals [a]		-.03 (.03)	-.05 (.04)		-.04 (.04)	-.06 (.06)
Fixed Effects - Slope						
Societal Beliefs: Merit [a]					.00 (.03)	-.00 (.04)
Societal Beliefs: Privilege [a]					.05 (.03)	.07 (.04)
Societal Beliefs: Connections [a]					.03 (.03)	-.03 (.05)
Just World Beliefs [a]					-.00 (.02)	-.00 (.03)

Present SES [a]					-.02 (.02)	-.03 (.02)
Family-of-origin SES [a]					.00 (.01)	.01 (.01)
Female					-.00 (.05)	.02 (.06)
Age [a]					.02 (.01)	.02 (.01)
Ethnicity (White reference group)						
Asian					-.09 (.07)	-.10 (.07)
Latino/a					-.12 (.09)	-.11 (.10)
Mixed / Other					-.12 (.08)	-.18 (.08)*
Attending graduate school					-.08 (.09)	-.08 (.10)
Undergraduate GPA					-.01 (.06)	-.02 (.06)
Major: Unemployment Rate [a]					.02 (.02)	.00 (.03)
Major: Income [a]					-.00 (.00)	.00 (.00)
Work: Income [a]					-.01 (.01)	-.01 (.02)
Work helps career goals [a]					-.01 (.02)	.02 (.03)
Random Effects						
Variance Slope				.05 (.02)	Varies	.04 (.02)
Between-person variance	1.03 (.12)	Varies	.57 (.07)	1.23 (.15)	Varies	.80 (.12)
Within-person variance	.51 (.03)	Varies	.48 (.03)	.42 (.03)	Varies	.40 (.03)
Model Fit Statistics						
Deviance	2076.05	Varies	1935.54	2050.62	Varies	1902.15
AIC	2082.05	Varies	1975.54	2062.62	Varies	1982.15
BIC	2095.93	Varies	2068.07	2090.38	Varies	2167.22
Number of Participants	211	Varies	211	211	Varies	211
Observations	755	Varies	755	755	Varies	755

Notes: * $p < .05$. [a] Grand-mean centered. Predictors entered individually in Models 2 and 5.

Connections-oriented personal agency beliefs. As seen in Table 29, participants' connections-oriented societal beliefs are significantly positively associated with their connections-oriented personal agency beliefs ($B = .19$ (.05), $p < .05$). Interestingly, both

participants' merit-oriented societal beliefs and privilege-oriented societal beliefs are also significantly positively associated with their connections-oriented personal agency beliefs; however these effects become non-significant when controlling for the other covariates in the model. There is also a significant positive association between participants' just world beliefs and their connections-oriented personal agency beliefs. In addition, participants' major-specific unemployment rate is significantly negatively associated with their connections-oriented personal agency beliefs (B = -.11 (.05), $p < .05$). Also, the degree to which individuals believe that their current work is helping them to attain their career goals is significantly positively associated with their connections-oriented personal agency beliefs, (B = .12 (.03), $p < .05$). The results also indicate a significant positive association between participants' present SES and their connections-oriented personal agency beliefs. However this relationship becomes non-significant when controlling for the other covariates in the model.

Regarding demographics, participants of Latino/a ethnicity report marginally higher connections-oriented personal agency beliefs, but steeper decreases in these beliefs over time than participants of White ethnicity. There is a significant interaction between the main predictor variables (connections-oriented societal beliefs) and participants' age on the slope of connections-oriented personal agency beliefs. The interaction indicates that at higher levels of connections-oriented societal beliefs, older participants have steeper increases in their connections-oriented personal agency beliefs over time. There are no significant interactions between participants' connections-oriented societal beliefs and their gender, ethnicity, or family-of-origin SES on the slope of their connections-oriented personal agency beliefs.

Collectively, the predictors account for substantial between-person variance, some within-person variance, and some slope variance. The results provide strong support for

Hypothesis 2c, and indicate that participants who hold high connections-oriented societal beliefs also report enhanced connections-oriented personal agency beliefs.

Table 29
Results of multilevel model analyses predicting participants' connections-oriented personal agency beliefs.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	4.26 (.05)*	Varies	4.35 (.13)*	4.28 (.06)*	Varies	4.28 (.15)*
Slope				-.01 (.02)	Varies	.03 (.05)
Societal Beliefs: Merit [a]		.10 (.04)*	.01 (.04)		.09 (.05)*	-.01 (.06)
Societal Beliefs: Privilege [a]		.12 (.04)*	.01 (.05)		.10 (.05)*	-.04 (.07)
Societal Beliefs: Connections [a]		.20 (.03)*	.18 (.05)*		.20 (.04)*	.18 (.07)*
Just World Beliefs [a]		.06 (.03)*	.06 (.03)*		.06 (.03)	.08 (.04)*
Present SES [a]		.05 (.02)*	.03 (.02)		.04 (.02)	.03 (.03)
Family-of-origin SES [a]		.03 (.02)	.02 (.02)		.00 (.02)	-.01 (.03)
Female		-.10 (.09)	-.11 (.10)		-.10 (.11)	-.11 (.12)
Age [a]		-.01 (.02)	-.01 (.03)		-.01 (.03)	-.00 (.03)
Ethnicity (White reference group)						
Asian		-.08 (.12)	-.16 (.13)		-.02 (.14)	-.08 (.16)
Latino/a		.26 (.16)	.14 (.17)		.46 (.19)	.35 (.21)
Mixed / Other		.15 (.14)	.13 (.15)		.16 (.16)	.22 (.17)
Attending graduate school		-.05 (.09)	-.04 (.09)		.22 (.15)	.24 (.17)
Undergraduate GPA		.06 (.11)	.00 (.11)		.07 (.13)	.05 (.13)
Major: Unemployment Rate [a]		-.06 (.04)	-.11 (.05)*		-.08 (.05)	-.14 (.06)*
Major: Income [a]		.00 (.01)	-.01 (.01)		.00 (.01)	-.01 (.01)
Work: Income [a]		-.00 (.01)	-.05 (.02)*		-.01 (.02)	-.04 (.03)
Work helps career goals [a]		.04 (.02)	.10 (.03)*		.00 (.03)	.05 (.04)
Fixed Effects - Slope						
Societal Beliefs: Merit [a]					.01 (.02)	.02 (.03)

Societal Beliefs: Privilege [a]					.01 (.02)	.04 (.03)
Societal Beliefs: Connections [a]					.00 (.02)	.01 (.04)
Just World Beliefs [a]					.00 (.02)	-.02 (.02)
Present SES [a]					.01 (.01)	-.00 (.01)
Family-of-origin SES [a]					.03 (.01)*	.02 (.01)
Female					.00 (.04)	.00 (.04)
Age [a]					.00 (.01)	-.01 (.01)
Ethnicity (White reference group)						
Asian					-.05 (.05)	-.05 (.05)
Latino/a					-.16 (.07)*	-.15 (.07)*
Mixed / Other					-.01 (.06)	-.07 (.06)
Attending graduate school					-.13 (.07)	-.10 (.08)
Undergraduate GPA					-.01 (.04)	-.04 (.05)
Major: Unemployment Rate [a]					.01 (.01)	.02 (.02)
Major: Income [a]					-.00 (.00)	-.00 (.00)
Work: Income [a]					.01 (.01)	.00 (.01)
Work helps career goals [a]					.03 (.02)	.03 (.02)
Random Effects						
Variance Slope				.02 (.01)	Varies	.01 (.01)
Between-person variance	.44 (.05)	Varies	.35 (.05)	.50 (.07)	Varies	.44 (.07)
Within-person variance	.30 (.02)	Varies	.30 (.02)	.27 (.02)	Varies	.26 (.02)
Model Fit Statistics						
Deviance	1624.49	Varies	1571.32	1618.96	Varies	1542.42
AIC	1630.49	Varies	1611.32	1630.96	Varies	1622.42
BIC	1644.38	Varies	1703.86	1658.73	Varies	1807.49
Number of Participants	211	Varies	211	211	Varies	211
Observations	755	Varies	755	755	Varies	755

Notes: * $p < .05$. [a] Grand-mean centered. Predictors entered individually in Models 2 and 5.

Research Question 3: How do young adults' beliefs about socioeconomic status attainment relate to their engagement with career-related goals?

Hypothesis 3a: Belief systems that emphasize personal control (e.g., merit) and belief systems that are viewed as instrumental and partly controllable (e.g., social connections) will be positively related to career-related goal engagement strategies.

Hypothesis 3b: Conversely, belief systems that emphasize a lack of personal control over socioeconomic status attainment (e.g., luck) will be positively related to career-related goal disengagement.

Model testing is performed in the sequence described in the plan for analyses section on page 88. Collectively, the results provide strong support for Hypotheses 3a and 3b, and are depicted below in Figure 7. The results are further discussed below, and presented in Tables 30, 31, 32, 33, and 34.

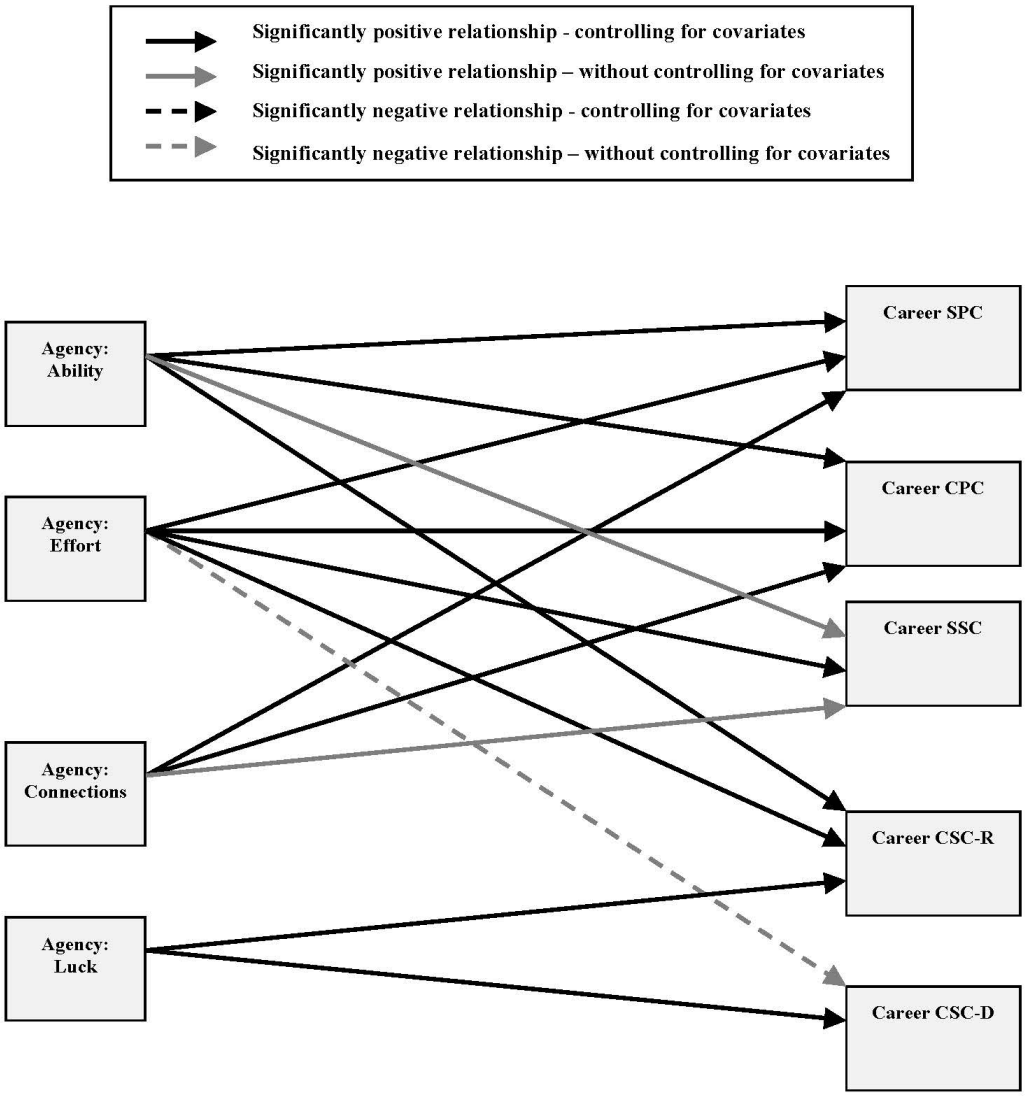

Figure 7. Results depicting the relationships between participants' personal agency beliefs and their career-related motivational strategies. SPC = selective primary control; CPC = compensatory primary control; SSC = selective secondary control; CSC-R = compensatory secondary control-reengagement; CSC-D = compensatory secondary control-disengagement.

Selective primary control. As seen below in Table 30, participants' ability-oriented personal agency beliefs (B = .12 (.04), $p < .05$), effort-oriented personal agency beliefs (B = .23 (.04), $p < .05$), connections-oriented personal agency beliefs (B = .06 (.03), $p < .05$), and

connections-oriented societal beliefs (B = .21 (.03), p < .05), are significantly positively associated with their career-related selective primary control strategies (SPC) while controlling for the other covariates in the model. In addition, participants' merit-oriented societal beliefs (B = .21 (.03), p < .05), and privilege-oriented societal beliefs (B = .10 (.03), p < .05), are also significantly positively associated with their career-related SPC. Particularly in the case of privilege-oriented societal beliefs, these associations become non-significant when the other covariates are added to the model. Also of interest is the significant positive relationship between the extent to which participants are working at a job that is helpful for attaining their career goals and their career-related SPC (B = .08 (.03), p < .05), as well as the significant negative relationship in Model 3 between major-specific unemployment rate and career-related SPC.

Regarding demographic differences, there is a significant positive relationship between age and career-related SPC. However, this relationship becomes non-significant when controlling for the other predictors in the model. Model 6 indicates that women report significantly steeper decreases in their career-related SPC over time. Finally, there is a significant decline in participants' career-related SPC over time (Model 4), that becomes non-significant when the set of predictors are added to the model (Model 6). There are no significant interactions between the main predictor variable (effort-oriented personal agency beliefs) and participants' gender, ethnicity, age, or family-of-origin SES on the slope of their career-related SPC.

Collectively, the predictors account for substantial between-person variance, some within-person variance, and some slope variance. The results provide strong support for Hypothesis 3a, and indicate that participants' controllable (e.g., merit, effort, and ability) and

instrumental (e.g., connections) belief systems are associated with increased career-related goal engagement (e.g., SPC).

Table 30
Results of multilevel model analyses predicting participants' career-related selective primary control strategies.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	4.94 (.04)*	Varies	4.97 (.08)*	5.00 (.05)*	Varies	4.98 (.10)*
Slope				-.04 (.02)*	Varies	-.02 (.04)
PA: Ability [a]		.36 (.03)*	.12 (.04)*		.33 (.04)*	.07 (.07)
PA: Effort [a]		.37 (.03)*	.23 (.04)*		.34 (.03)*	.21 (.06)*
PA: Connections [a]		.17 (.03)*	.06 (.03)*		.16 (.03)*	.08 (.04)
PA: Luck [a]		-.00 (.02)	-.01 (.02)		.00 (.02)	.02 (.03)
Societal Beliefs: Merit [a]		.21 (.03)*	.05 (.03)		.21 (.03)*	.09 (.04)*
Societal Beliefs: Privilege [a]		.10 (.03)*	-.01 (.04)		.08 (.04)*	-.06 (.05)
Societal Beliefs: Connections [a]		.21 (.03)*	.13 (.04)*		.18 (.04)*	.08 (.05)*
Just World Beliefs [a]		.01 (.02)	-.01 (.02)		.00 (.03)	-.02 (.03)
Present SES [a]		.01 (.01)	-.00 (.02)		-.01 (.02)	-.03 (.02)
Family-of-origin SES [a]		-.01 (.01)	-.02 (.01)		-.03 (.02)	-.01 (.02)
Female		-.04 (.08)	-.09 (.06)		.04 (.08)	.00 (.08)
Age [a]		.04 (.02)*	.03 (.02)		.04 (.02)*	.03 (.02)
Ethnicity (White reference group)						
Asian		-.14 (.10)	-.05 (.08)		-.11 (.11)	-.06 (.10)
Latino/a		.22 (.13)	.15 (.11)		.27 (.14)	.14 (.13)
Mixed / Other		.21 (.11)	.17 (.09)		.20 (.12)	.08 (.11)
Attending graduate school		-.05 (.07)	-.06 (.07)		.09 (.12)	.06 (.13)
Undergraduate GPA		.08 (.09)	-.00 (.07)		.08 (.10)	-.04 (.08)
Major: Unemployment Rate [a]		-.03 (.03)	-.07 (.03)*		-.04 (.04)	-.05 (.04)
Major: Income [a]		-.00 (.00)	-.00 (.00)		-.00 (.00)	-.00 (.00)

Work: Income [a]		.01 (.01)	-.01 (.01)		.03 (.02)*	.01 (.02)
Work helps career goals [a]		.04 (.02)*	.04 (.02)*		.03 (.02)	.04 (.03)
Fixed Effects - Slope						
PA: Ability [a]					.02 (.02)	.05 (.04)
PA: Effort [a]					.02 (.02)	.01 (.03)
PA: Connections [a]					.01 (.02)	-.02 (.02)
PA: Luck [a]					.00 (.01)	-.01 (.02)
Societal Beliefs: Merit [a]					-.00 (.02)	-.04 (.02)
Societal Beliefs: Privilege [a]					.02 (.02)	.04 (.03)
Societal Beliefs: Connections [a]					.03 (.02)	.02 (.03)
Just World Beliefs [a]					.01 (.01)	.01 (.02)
Present SES [a]					.02 (.01)	.02 (.01)
Family-of-origin SES [a]					.01 (.01)	-.01 (.01)
Female					-.06 (.03)	-.07 (.03)*
Age [a]					-.00 (.01)	-.00 (.01)
Ethnicity (White reference group)						
Asian					-.03 (.04)	.02 (.04)
Latino/a					-.05 (.06)	.01 (.06)
Mixed / Other					.01 (.05)	.07 (.05)
Attending graduate school					-.04 (.06)	-.04 (.06)
Undergraduate GPA					-.00 (.04)	.02 (.04)
Major: Unemployment Rate [a]					.01 (.01)	-.01 (.01)
Major: Income [a]					-.00 (.00)	-.00 (.00)
Work: Income [a]					-.01 (.01)	-.00 (.01)
Work helps career goals [a]					.02 (.01)	.00 (.02)
Random Effects						
Variance Slope				.01 (.01)	Varies	.00 (.01)
Between-person variance	.31 (.04)	Varies	.12 (.02)	.30 (.04)	Varies	.12 (.03)
Within-person variance	.21 (.01)	Varies	.19 (.01)	.18 (.01)	Varies	.18 (.01)

Model Fit Statistics						
Deviance	1336.20	Varies	1143.33	1322.54	Varies	1113.95
AIC	1342.20	Varies	1191.33	1334.54	Varies	1209.95
BIC	1356.08	Varies	1302.38	1362.30	Varies	1432.03
Number of Participants	211	Varies	211	211	Varies	211
Observations	755	Varies	755	755	Varies	755

Notes: * $p < .05$. [a] Grand-mean centered. Predictors entered individually in Models 2 and 5.

Compensatory primary control. As seen below in Table 31, participants' ability-oriented personal agency beliefs ($B = .14$ (.05), $p < .05$), effort-oriented personal agency beliefs ($B = .15$ (.05), $p < .05$), connections-oriented personal agency beliefs ($B = .09$ (.03), $p < .05$), and merit-oriented societal beliefs ($B = .11$ (.04), $p < .05$), are significantly positively associated with their career-related compensatory primary control strategies (CPC) while controlling for the other covariates in the model. In addition, participants' connections-oriented societal beliefs ($B = .19$ (.03), $p < .05$), and privilege-oriented societal beliefs ($B = .10$ (.03), $p < .05$), are also significantly positively associated with their career-related CPC. However, these associations become non-significant when the other covariates are added to the model. Also of interest is a significant positive relationship between the extent to which participants are working at a job that is helpful for attaining their career goals and their career-related CPC ($B = .13$ (.03), $p < .05$). Finally, there is a significant time by connections-oriented personal agency beliefs interaction ($B = .05$ (.03), $p < .05$). The interaction, presented in Figure 8 below, indicates that individuals with higher levels of connections-oriented personal agency beliefs report steeper increases in their career-related CPC over time.

Regarding demographics, Models 2 and 3 indicate that participants of mixed/other ethnicity report significantly higher career-related CPC than participants of White ethnicity.

There are no significant interactions between the main predictor variable (connections-oriented personal agency beliefs) and participants' gender, ethnicity, age, or family-of-origin SES on the slope of their career-related CPC.

Collectively, the predictors account for substantial between-person variance, some within-person variance, and some slope variance. The results provide strong support for Hypothesis 3a, and indicate that participants' controllable (e.g., merit, effort, and ability) and instrumental (e.g., connections) belief systems are associated with increased career-related goal engagement (e.g., CPC).

Table 31
Results of multilevel model analyses predicting participants' career-related compensatory primary control strategies.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	4.73 (.04)*	Varies	4.61 (.09)*	4.73 (.05)*	Varies	4.55 (.11)*
Slope				-.01 (.02)	Varies	.04 (.05)
PA: Ability [a]		.35 (.03)*	.15 (.05)*		.33 (.04)*	.25 (.08)*
PA: Effort [a]		.34 (.03)*	.14 (.05)*		.30 (.04)*	.11 (.07)
PA: Connections [a]		.21 (.03)*	.09 (.03)*		.16 (.04)*	.01 (.05)
PA: Luck [a]		.00 (.02)	-.01 (.03)		-.00 (.03)	-.03 (.03)
Societal Beliefs: Merit [a]		.22 (.03)*	.11 (.04)*		.21 (.04)*	.14 (.05)*
Societal Beliefs: Privilege [a]		.10 (.03)*	.01 (.04)		.11 (.04)*	.05 (.06)
Societal Beliefs: Connections [a]		.19 (.03)*	.06 (.04)		.16 (.04)*	-.02 (.06)
Just World Beliefs [a]		.04 (.02)	.00 (.02)		.05 (.03)	.00 (.03)
Present SES [a]		.04 (.02)*	.02 (.02)		.01 (.02)	-.02 (.02)
Family-of-origin SES [a]		.01 (.01)	-.02 (.02)		-.00 (.02)	-.03 (.02)
Female		.02 (.08)	-.07 (.07)		.11 (.09)	.10 (.09)
Age [a]		.02 (.02)	.03 (.02)		.03 (.02)	.04 (.02)

Ethnicity (White reference group)				
Asian	.05 (.10)	.13 (.10)	.12 (.12)	.17 (.11)
Latino/a	.19 (.14)	.19 (.13)	.09 (.16)	-.04 (.15)
Mixed / Other	.31 (.12)*	.30 (.11)*	.26 (.14)	.21 (.13)
Attending graduate school	.06 (.08)	.00 (.08)	.03 (.14)	-.05 (.15)
Undergraduate GPA	.09 (.09)	.01 (.08)	.19 (.11)	.04 (.10)
Major: Unemployment Rate [a]	-.03 (.03)	-.02 (.03)	-.02 (.04)	-.03 (.04)
Major: Income [a]	-.00 (.00)	-.00 (.00)	-.01 (.01)	-.00 (.01)
Work: Income [a]	.01 (.01)	-.04 (.02)*	.02 (.02)	-.01 (.03)
Work helps career goals [a]	.08 (.02)*	.11 (.03)*	.04 (.03)	.08 (.04)*
Fixed Effects - Slope				
PA: Ability [a]			.01 (.02)	-.05 (.04)
PA: Effort [a]			.03 (.02)	.02 (.04)
PA: Connections [a]			.04 (.02)	.05 (.03)*
PA: Luck [a]			.01 (.01)	.03 (.02)
Societal Beliefs: Merit [a]			-.00 (.02)	-.03 (.03)
Societal Beliefs: Privilege [a]			-.01 (.02)	-.05 (.03)
Societal Beliefs: Connections [a]			.02 (.02)	.05 (.04)
Just World Beliefs [a]			-.01 (.02)	.00 (.02)
Present SES [a]			.02 (.01)	.03 (.01)*
Family-of-origin SES [a]			.01 (.01)	.01 (.01)
Female			-.07 (.04)	-.11 (.04)*
Age [a]			-.00 (.01)	-.01 (.01)
Ethnicity (White reference group)				
Asian			-.06 (.05)	-.03 (.05)
Latino/a			.07 (.06)	.17 (.07)
Mixed / Other			.05 (.05)	.07 (.05)
Attending graduate school			.01 (.07)	.02 (.07)
Undergraduate GPA			-.08 (.04)	-.02 (.04)

Major: Unemployment Rate [a]					-.00 (.01)	.00 (.02)
Major: Income [a]					.00 (.00)	.00 (.00)
Work: Income [a]					-.01 (.01)	-.02 (.01)
Work helps career goals [a]					.02 (.01)	.02 (.02)
Random Effects						
Variance Slope				.02 (.01)	Varies	.01 (.01)
Between-person variance	.31 (.04)	Varies	.16 (.02)	.36 (.05)	Varies	.17 (.04)
Within-person variance	.28 (.02)	Varies	.26 (.02)	.24 (.02)	Varies	.23 (.02)
Model Fit Statistics						
Deviance	1512.80	Varies	1360.20	1503.07	Varies	1315.61
AIC	1518.80	Varies	1408.20	1515.07	Varies	1411.61
BIC	1532.68	Varies	1519.25	1542.83	Varies	1633.69
Number of Participants	211	Varies	211	211	Varies	211
Observations	755	Varies	755	755	Varies	755

Notes: * $p < .05$. [a] Grand-mean centered. Predictors entered individually in Models 2 and 5.

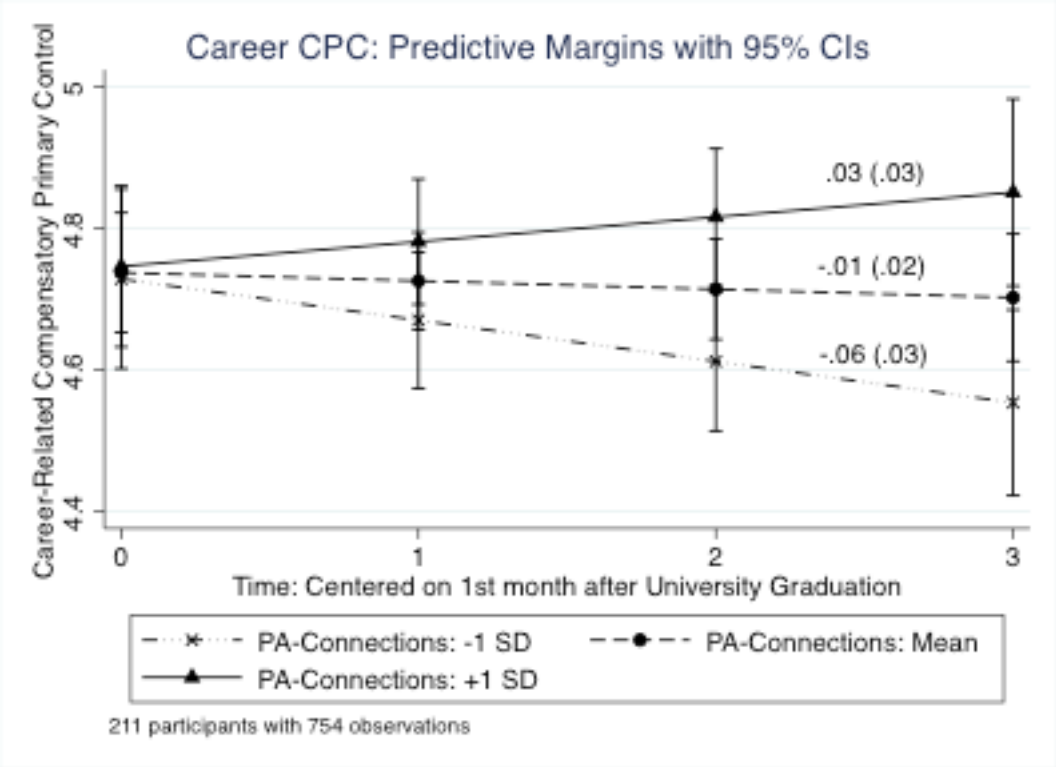

Figure 8. Participants' career-related compensatory primary control strategies: predicted margins for time by connections-oriented personal agency beliefs interaction. Slopes presented for the mean and +/- 1 SD from the mean. Based on 211 participants with 754 observations.

Selective secondary control. As seen below in Table 32, participants' effort-oriented personal agency beliefs (B = .19 (.06), p < .05), and merit-oriented societal beliefs (B = .12 (.05), p < .05), are significantly positively associated with their career-related selective secondary control strategies (SSC) while controlling for the other covariates in the model. In addition, participants' ability-oriented personal agency beliefs (B = .33 (.04), p < .05), connections-oriented personal agency beliefs (B = .17 (.03), p < .05), and connections-oriented societal beliefs (B = .14 (.04), p < .05), are also significantly positively associated with their career-related SSC. However, these associations become non-significant when the other covariates are added to the model. Additionally, Models 5 and 6 indicate that participants with higher

connections-oriented personal agency beliefs report significantly higher career-related SSC, but significantly steeper decreases in their SSC over time. This relationship indicates a regression to the mean. Also of interest is a significant positive relationship between career-related selective secondary control strategies and working at a job that is helpful for attaining participants' career goals (B = .10 (.04), $p < .05$).

Regarding demographics, Model 6 indicates that participants of Latino/a ethnicity report marginally higher levels of career-related SSC, but steeper decreases in SSC over time than participants of White ethnicity. Similarly, Model 5 indicates that participants of Asian ethnicity report marginally higher levels of career-related SSC, but steeper decreases in SSC over time than participants of White ethnicity. There are no significant interactions between the main predictor variable (ability-oriented personal agency beliefs) and participants' gender, ethnicity, age, or family-of-origin SES on the slope of their career-related SSC.

Collectively, the predictors account for substantial between-person variance, and some slope variance. The results provide strong support for Hypothesis 3a, and indicate that participants' controllable (e.g., merit, effort, and ability) and to a lesser extent their instrumental (e.g., connections) belief systems are associated with increased career-related goal engagement (e.g., SSC).

Table 32

Results of multilevel model analyses predicting participants' career-related selective secondary control strategies.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	4.96 (.05)*	Varies	4.89 (.11)*	4.93 (.06)*	Varies	4.68 (.15)*
Slope				.02 (.02)	Varies	.15 (.06)
PA: Ability [a]		.33 (.04)*	.08 (.06)		.39 (.05)*	.03 (.10)
PA: Effort [a]		.31 (.04)*	.19 (.06)*		.32 (.05)*	.14 (.10)
PA: Connections [a]		.17 (.03)*	.05 (.04)		.24 (.05)*	.17 (.07)*
PA: Luck [a]		-.01 (.03)	.02 (.03)		.00 (.03)	.03 (.05)
Societal Beliefs: Merit [a]		.22 (.04)*	.12 (.05)*		.23 (.05)*	.16 (.07)*
Societal Beliefs: Privilege [a]		.06 (.04)	.01 (.06)		.01 (.05)	-.05 (.08)
Societal Beliefs: Connections [a]		.14 (.04)*	-.00 (.06)		.10 (.05)*	-.10 (.08)
Just World Beliefs [a]		.05 (.03)	.04 (.03)		.07 (.04)	.07 (.05)
Present SES [a]		.03 (.02)	.01 (.02)		.05 (.03)	.03 (.03)
Family-of-origin SES [a]		.02 (.02)	.02 (.02)		.03 (.02)	.02 (.03)
Female		.01 (.09)	-.01 (.09)		.05 (.11)	.10 (.12)
Age [a]		.01 (.02)	.03 (.02)		.01 (.03)	.05 (.03)
Ethnicity (White reference group)						
Asian		-.09 (.12)	.02 (.11)		.08 (.15)	.19 (.15)
Latino/a		.10 (.16)	.15 (.15)		.28 (.20)	.39 (.21)
Mixed / Other		.17 (.14)	.21 (.13)		.27 (.17)	.34 (.17)
Attending graduate school		.04 (.09)	-.09 (.10)		.01 (.18)	-.21 (.20)
Undergraduate GPA		.20 (.10)	.14 (.10)		.21 (.13)	.15 (.13)
Major: Unemployment Rate [a]		.00 (.04)	-.03 (.04)		-.05 (.05)	-.06 (.05)
Major: Income [a]		-.01 (.00)	-.01 (.01)		-.00 (.01)	-.01 (.01)
Work: Income [a]		.00 (.02)	-.03 (.02)		.01 (.02)	.01 (.04)
Work helps career goals [a]		.06 (.02)*	.09 (.03)*		.04 (.03)	.04 (.05)
Fixed Effects - Slope						

PA: Ability [a]					-.04 (.03)	.03 (.05)
PA: Effort [a]					-.01 (.03)	.03 (.05)
PA: Connections [a]					-.05 (.02)*	-.09 (.03)*
PA: Luck [a]					-.01 (.02)	-.01 (.02)
Societal Beliefs: Merit [a]					-.01 (.03)	-.04 (.03)
Societal Beliefs: Privilege [a]					.03 (.03)	.04 (.04)
Societal Beliefs: Connections [a]					.03 (.03)	.08 (.04)
Just World Beliefs [a]					-.01 (.02)	-.01 (.02)
Present SES [a]					-.02 (.01)	-.02 (.02)
Family-of-origin SES [a]					-.00 (.01)	.00 (.01)
Female					-.03 (.04)	-.07 (.05)
Age [a]					.00 (.01)	-.01 (.01)
Ethnicity (White reference group)						
Asian					-.13 (.05)*	-.12 (.06)
Latino/a					-.14 (.07)	-.18 (.08)*
Mixed / Other					-.08 (.06)	-.10 (.07)
Attending graduate school					-.01 (.08)	.06 (.09)
Undergraduate GPA					-.01 (.05)	-.00 (.05)
Major: Unemployment Rate [a]					.04 (.02)*	.02 (.02)
Major: Income [a]					-.00 (.00)	-.00 (.00)
Work: Income [a]					-.01 (.01)	-.02 (.02)
Work helps career goals [a]					.02 (.02)	.04 (.03)
Random Effects						
Variance Slope				.02 (.01)	Varies	.01 (.01)
Between-person variance	.35 (.05)	Varies	.21 (.03)	.52 (.08)	Varies	.31 (.07)
Within-person variance	.43 (.03)	Varies	.43 (.03)	.39 (.03)	Varies	.39 (.03)
Model Fit Statistics						
Deviance	1793.50	Varies	1707.66	1783.30	Varies	1670.78
AIC	1799.50	Varies	1755.66	1795.30	Varies	1766.78
BIC	1813.38	Varies	1866.67	1823.05	Varies	1988.79

Number of Participants	211	Varies	211	211	Varies	211
Observations	754	Varies	754	754	Varies	754

Notes: * $p < .05$. [a] Grand-mean centered. Predictors entered individually in Models 2 and 5.

Compensatory secondary control - Disengagement. As seen below in Table 33, participants' luck-oriented personal agency beliefs are significantly positively associated with their career-related compensatory secondary control-disengagement strategies (CSC-Disengagement) ($B = .11$ (.04), $p < .05$), while controlling for the other covariates in the model. In addition, participants' effort-oriented personal agency beliefs is significantly negatively associated with their career-related CSC-disengagement ($B = -.11$ (.05), $p < .05$), and privilege-oriented societal beliefs is significantly positively associated with their career-related CSC-disengagement ($B = .14$ (.05), $p < .05$). However, these associations become non-significant when the other covariates are added to the model. Model 6 indicates that participants with high merit-oriented societal beliefs report significantly higher levels of career-related CSC-disengagement, but significantly steeper decreases in their CSC-disengagement over time; indicating a regression to the mean. Similarly, Model 5 indicates that participants with high just world beliefs report significantly higher levels career-related CSC-disengagement, but significantly steeper decreases in their CSC-disengagement over time; indicating a regression to the mean.

Regarding demographics, Model 5 indicates that participants of Asian ethnicity report significantly higher levels of career-related CSC-disengagement than participants of White ethnicity. In Models 2 and 3, participants from higher family-of-origin SES backgrounds report significantly higher levels of career-related CSC-disengagement, and in Model 6 report

significantly steeper increases in their CSC-disengagement over time. Models 5 and 6 indicate that participants whose own present SES is higher report marginally to significantly higher career-related CSC-disengagement, but steeper decreases in their CSC-disengagement over time; indicating a regression to the mean. Additionally, Model 6 indicates that participants who are making more money at their job report significantly lower CSC-disengagement, but significantly steeper increases in their CSC-disengagement over time; indicating a regression to the mean. Model 6 also indicates that participants who are working in a job they feel helps them attain their career goals report significantly higher CSC-disengagement, but significantly steeper decreases in their CSC-disengagement over time; again indicating a regression to the mean. There are no significant interactions between the main predictor variable (luck-oriented personal agency beliefs) and participants' gender, ethnicity, age, or family-of-origin SES on the slope of their career-related CSC-disengagement.

Collectively, the predictors account for some between-person variance, and some within-person variance. The results provide strong support for Hypothesis 3b, and indicate that participants' uncontrollable belief systems (e.g., privilege and luck) are associated with increased career-related goal disengagement (e.g., CSC-disengagement).

Table 33

Results of multilevel model analyses predicting participants' career-related compensatory secondary control-disengagement strategies.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	3.20 (.06)*	Varies	3.33 (.19)*	3.16 (.07)*	Varies	3.43 (.19)*
Slope				.03 (.03)	Varies	-.08 (.08)
PA: Ability [a]		-.10 (.05)	.01 (.08)		-.12 (.07)	.05 (.13)
PA: Effort [a]		-.11 (.05)*	-.03 (.08)		-.13 (.07)	-.08 (.12)
PA: Connections [a]		-.02 (.05)	-.07 (.06)		-.06 (.06)	-.16 (.09)
PA: Luck [a]		.10 (.03)*	.11 (.04)*		.11 (.04)*	.13 (.06)*
Societal Beliefs: Merit [a]		-.01 (.05)	-.04 (.07)		.09 (.06)	.18 (.09)*
Societal Beliefs: Privilege [a]		.14 (.05)*	.01 (.08)		.13 (.07)*	.09 (.10)
Societal Beliefs: Connections [a]		.05 (.05)	.05 (.08)		.03 (.07)	-.02 (.10)
Just World Beliefs [a]		.06 (.04)	.02 (.04)		.12 (.05)*	.03 (.06)
Present SES [a]		.02 (.02)	.00 (.02)		.07 (.03)*	.06 (.04)
Family-of-origin SES [a]		.06 (.02)*	.07 (.03)*		.04 (.03)	.01 (.04)
Female		-.13 (.11)	-.15 (.13)		-.19 (13)	-.23 (.16)
Age [a]		-.01 (.03)	-.01 (.03)		-.03 (.03)	-.03 (.04)
Ethnicity (White reference group)						
Asian		.23 (.14)	.07 (.17)		.34 (.17)*	-.04 (.20)
Latino/a		-.15 (.20)	-.18 (.22)		-.16 (.23)	-.23 (.27)
Mixed / Other		-.08 (.17)	-.17 (.19)		-.03 (.20)	-.18 (.22)
Attending graduate school		.01 (.12)	-.01 (.14)		-.33 (.24)	-.31 (.26)
Undergraduate GPA		.00 (.13)	-.08 (.14)		-.08 (.16)	-.21 (.17)
Major: Unemployment Rate [a]		.08 (.05)	.12 (.06)*		.07 (.06)	.10 (.07)
Major: Income [a]		.00 (.01)	-.00 (.01)		.00 (.01)	-.00 (.01)
Work: Income [a]		-.02 (.02)	-.03 (.03)		-.05 (.03)	-.12 (.05)*
Work helps career goals [a]		-.00 (.03)	.08 (.04)		-.00 (.04)	.19 (.06)*
Fixed Effects - Slope						

PA: Ability [a]					.01 (.04)	-.04 (.07)
PA: Effort [a]					.02 (.03)	.06 (.07)
PA: Connections [a]					.03 (.03)	.07 (.04)
PA: Luck [a]					-.01 (.02)	-.02 (.03)
Societal Beliefs: Merit [a]					-.08 (.03)*	-.17 (.05)*
Societal Beliefs: Privilege [a]					.00 (.03)	-.07 (.06)
Societal Beliefs: Connections [a]					.02 (.04)	.07 (.06)
Just World Beliefs [a]					-.05 (.02)*	.00 (.03)
Present SES [a]					-.04 (.02)*	-.05 (.02)*
Family-of-origin SES [a]					.01 (.01)	.05 (.02)*
Female					.05 (.05)	.05 (.06)
Age [a]					.02 (.01)	.02 (.02)
Ethnicity (White reference group)						
Asian					-.08 (.07)	.08 (.08)
Latino/a					.00 (.09)	.04 (.11)
Mixed / Other					-.04 (.08)	.02 (.09)
Attending graduate school					.16 (.11)	.14 (.12)
Undergraduate GPA					.06 (.06)	.09 (.07)
Major: Unemployment Rate [a]					.01 (.02)	.02 (.03)
Major: Income [a]					-.00 (.00)	.00 (.00)
Work: Income [a]					.02 (.02)	.06 (.02)*
Work helps career goals [a]					-.00 (.02)	-.07 (.03)*
Random Effects						
Variance Slope				.00 (.00)	Varies	.00 (.00)
Between-person variance	.57 (.08)	Varies	.50 (.07)	.57 (.09)	Varies	.50 (.07)
Within-person variance	.76 (.05)	Varies	.75 (.05)	.76 (.05)	Varies	.69 (.04)
Model Fit Statistics						
Deviance	2210.15	Varies	2177.43	2209.13	Varies	2141.47
AIC	2216.15	Varies	2225.43	2221.13	Varies	2237.47
BIC	2230.03	Varies	2336.47	2248.89	Varies	2459.56

Number of Participants	211	Varies	211	211	Varies	211
Observations	755	Varies	755	755	Varies	755

Notes: * $p < .05$. [a] Grand-mean centered. Predictors entered individually in Models 2 and 5.

Compensatory secondary control - Reengagement. As seen below in Table 34, participants' ability-oriented personal agency beliefs ($B = .14$ (.07), $p < .05$), effort-oriented personal agency beliefs ($B = .15$ (.06), $p < .05$), luck-oriented personal agency beliefs ($B = .10$ (.04), $p < .05$), and merit-oriented societal beliefs ($B = .16$ (.05), $p < .05$), are significantly positively associated with their career-related compensatory secondary control reengagement strategies (CSC-reengagement) while controlling for the other covariates in the model. In addition, participants' connections-oriented societal beliefs ($B = .17$ (.04), $p < .05$), and privilege-oriented societal beliefs ($B = .15$ (.04), $p < .05$), are also significantly positively associated with their career-related CSC-reengagement. However, these associations become non-significant when the other covariates are added to the model.

Regarding demographics, Models 2 and 5 indicate that participants of Latino/a ethnicity report significantly lower CSC-reengagement than participants of White ethnicity; however, this relationship becomes non-significant when the other covariates are added to the model. Model 2 indicates that participants with higher family-of-origin SES and higher present SES report significantly higher CSC-reengagement; however, these relationships become non-significant when the other covariates are added to the model. Model 5 indicates that women have significantly higher CSC-reengagement than men, but this relationship becomes non-significant when the other covariates are added to the model. Finally, Model 5 also indicates that older participants have marginally lower CSC-reengagement, but significantly steeper increases in CSC-reengagement over time than younger participants. Again, however, this relationship

becomes non-significant when the other covariates are added to the model. There are no significant interactions between the main predictor variable (luck-oriented personal agency beliefs) and participants' gender, ethnicity, age, or family-of-origin SES on the slope of their career-related CSC-reengagement.

Collectively, the predictors account for some between-person variance, some within-person variance, and some slope variance. The results provide moderate support for Hypothesis 3b, and indicate that participants' uncontrollable belief systems (e.g., privilege and luck) are generally positively associated with career-related goal disengagement (e.g., CSC-reengagement). However, the results indicate that controllable belief systems (e.g., merit, effort, and ability) are also positively associated with CSC-reengagement.

Table 34
Results of multilevel model analyses predicting participants' career-related compensatory secondary control-reengagement strategies.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	4.28 (.05)*	Varies	4.35 (.13)*	4.28 (.06)*	Varies	4.35 (.16)*
Slope				.00 (.02)	Varies	-.01 (.06)
PA: Ability [a]		.18 (.04)*	.14 (.07)*		.15 (.06)*	.11 (.11)
PA: Effort [a]		.21 (.04)*	.15 (.06)*		.20 (.05)*	.21 (.10)*
PA: Connections [a]		.07 (.04)	-.09 (.05)		.04 (.05)	-.09 (.07)
PA: Luck [a]		.07 (.03)*	.10 (.04)*		.06 (.04)	.07 (.05)
Societal Beliefs: Merit [a]		.23 (.04)*	.16 (.06)*		.24 (.05)*	.17 (.07)*
Societal Beliefs: Privilege [a]		.15 (.04)*	-.00 (.06)		.13 (.05)*	-.07 (.08)
Societal Beliefs: Connections [a]		.17 (.04)*	.06 (.06)		.18 (.05)	.07 (.08)
Just World Beliefs [a]		.03 (.03)	-.05 (.03)		.06 (.04)	-.04 (.05)
Present SES [a]		.05 (.02)*	.03 (.02)		.06 (.03)	.05 (.03)

Family-of-origin SES [a]	.04 (.02)*	.02 (.02)	.04 (.02)	.00 (.03)
Female	.13 (.10)	.02 (.11)	.23 (.11)*	.10 (.13)
Age [a]	.01 (.02)	.00 (.03)	-.02 (.03)	-.03 (.03)
Ethnicity (White reference group)				
Asian	-.01 (.13)	-.06 (.14)	.09 (.15)	-.04 (.16)
Latino/a	-.35 (.17)*	-.23 (.19)	-.43 (.20)*	-.35 (.22)
Mixed / Other	-.11 (.15)	-.12 (.16)	-.18 (.17)	-.22 (.18)
Attending graduate school	-.15 (.10)	-.13 (.11)	-.26 (.19)	-.26 (.21)
Undergraduate GPA	.15 (.11)	-.02 (.12)	.12 (.14)	-.07 (.14)
Major: Unemployment Rate [a]	.00 (.04)	.05 (.05)	-.05 (.05)	.01 (.06)
Major: Income [a]	.00 (.01)	.00 (.01)	.01 (.01)	.00 (.01)
Work: Income [a]	.00 (.02)	.00 (.02)	-.01 (.03)	.00 (.04)
Work helps career goals [a]	-.00 (.03)	.03 (.03)	-.03 (.04)	.05 (.05)
Fixed Effects - Slope				
PA: Ability [a]			.02 (.03)	.02 (.06)
PA: Effort [a]			.01 (.03)	-.03 (.05)
PA: Connections [a]			.02 (.02)	-.01 (.04)
PA: Luck [a]			.01 (.02)	.02 (.03)
Societal Beliefs: Merit [a]			-.01 (.03)	-.01 (.04)
Societal Beliefs: Privilege [a]			.02 (.03)	.04 (.04)
Societal Beliefs: Connections [a]			-.00 (.03)	-.01 (.05)
Just World Beliefs [a]			-.02 (.02)	-.01 (.02)
Present SES [a]			-.01 (.02)	-.01 (.02)
Family-of-origin SES [a]			-.00 (.01)	.01 (.01)
Female			-.07 (.05)	-.06 (.05)
Age [a]			.02 (.01)*	.02 (.01)
Ethnicity (White reference group)				
Asian			-.07 (.06)	-.00 (.07)
Latino/a			.06 (.08)	.09 (.09)

Mixed / Other					.06 (.07)	.08 (.07)
Attending graduate school					.05 (.09)	.08 (.10)
Undergraduate GPA					.02 (.05)	.03 (.05)
Major: Unemployment Rate [a]					.03 (.02)	.03 (.02)
Major: Income [a]					-.00 (.00)	.00 (.00)
Work: Income [a]					.01 (.01)	.01 (.02)
Work helps career goals [a]					.02 (.02)	-.01 (.03)
Random Effects						
Variance Slope				.02 (.01)	Varies	.00 (.01)
Between-person variance	.46 (.06)	Varies	.37 (.05)	.47 (.08)	Varies	.33 (.07)
Within-person variance	.49 (.03)	Varies	.46 (.03)	.46 (.03)	Varies	.44 (.03)
Model Fit Statistics						
Deviance	1908.32	Varies	1843.12	1906.10	Varies	1822.56
AIC	1914.32	Varies	1891.12	1918.10	Varies	1918.56
BIC	1928.20	Varies	2002.16	1945.86	Varies	2140.64
Number of Participants	211	Varies	211	211	Varies	211
Observations	755	Varies	755	755	Varies	755

Notes: * $p < .05$. [a] Grand-mean centered. Predictors entered individually in Models 2 and 5.

As it can be expected that personal agency beliefs and career-related motivational strategies are reciprocally related with one another, the predictors and dependent variables were reversed and analyzed using multilevel modeling with the same strategy as described in the plan for data analysis section on page 89. The results are not presented in detail here, but can be found in Appendix A. The findings of the reverse-direction modeling are consistent with the previously described relationships. More specifically, the results indicate that participants' career-related goal engagement (i.e., SPC, CPC, and SSC) and career-related goal reengagement (CSC-reengagement) are positively associated with their merit-oriented personal agency beliefs (i.e., effort and ability) and connections-oriented personal agency beliefs. Additionally, participants'

career-related goal disengagement (CSC-disengagement) is positively associated with their luck-oriented personal agency beliefs. These findings provide further support for Hypotheses 3a and 3b that controllable (e.g., merit) and instrumental (e.g., connections) belief systems are associated with career-related goal engagement, while uncontrollable (e.g., privilege and luck) belief systems are associated with career-related goal disengagement.

Research Question 4: How are young adults' career-related motivational strategies related to career development?

Hypothesis 4a: Career-related goal engagement strategies will be positively associated with career development.

Hypothesis 4b: Career-related goal disengagement strategies will be associated with stagnation or decline in career development.

Model testing is performed in the sequence described in the plan for analyses section on page 88. Collectively, the results provide strong support for Hypotheses 4a and 4b, and are depicted in Figure 9 below. The results are further discussed below, and presented in Tables 35, 36, 37, and 38.

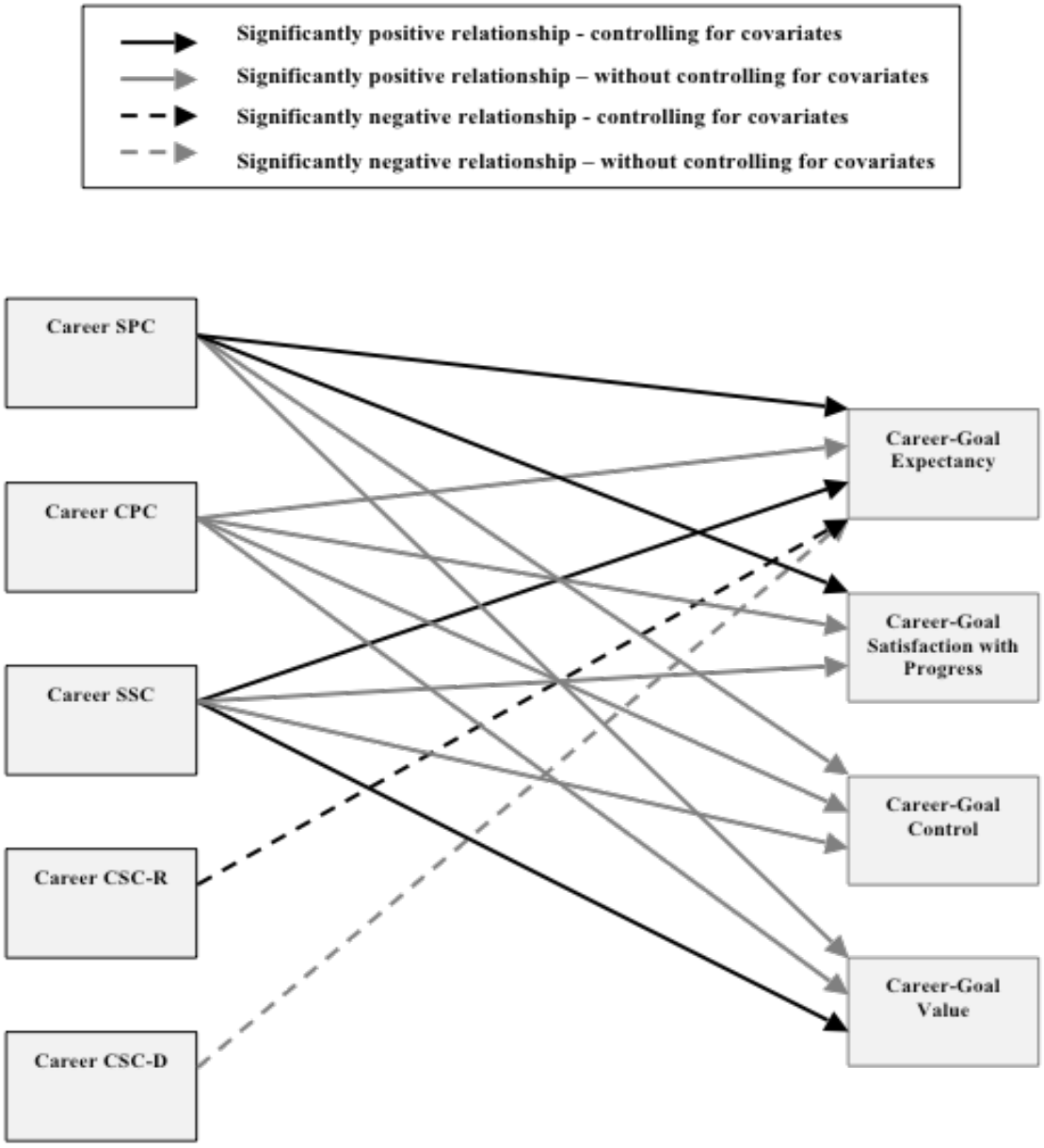

Figure 9. Results depicting the relationships between participants' career-related motivational strategies and their career development. SPC = selective primary control; CPC = compensatory primary control; SSC = selective secondary control; CSC-R: compensatory secondary control-reengagement; CSC-D: compensatory secondary control-disengagement.

Career goal expectancy. As seen in Table 35 below, participants' career-related selective primary control (B = .16 (.05), p < .05), and selective secondary control (B = .14 (.03), p < .05), are significantly positively associated with their career goal expectancy, while participants' career-related compensatory secondary control-reengagement is significantly negatively associated with their career goal expectancy (B = -.08 (.03), p < .05), while controlling for the other covariates in the model. In addition, participants' career-related compensatory primary control is significantly positively associated with their career goal expectancy (B = .16 (.03), p < .05), while participants' compensatory secondary control-disengage is significantly negatively associated with their career goal expectancy (B = -.04 (.02), p < .05). However, these relationships become non-significant when controlling for the other covariates in the model. The results also indicate that participants' ability-oriented personal agency beliefs (B = .19 (.03), p < .05), effort-oriented personal agency beliefs (B = .16 (.03), p < .05), and connections-oriented personal agency beliefs (B = .12 (.03), p < .05), are significantly positively associated with their career goal expectancy. However, these relationships are also removed when controlling for the other covariates in the model. In Model 5, participants' luck-oriented personal agency beliefs are significantly associated with steeper decreases in career goal expectancy over time. Also of interest is a significant positive relationship between career goal expectancy and working in a job that helps participants' attain their career goals (B = .06 (.03), p < .05), while controlling for the other covariates in the model. Furthermore, Models 3 and 6 indicate that participants who are making more money in their job report lower career goal expectancy. Models 2 and 6 indicate that participants' just world beliefs are positively associated with their career goal expectancy. There are no significant interactions between the main predictor variable (career-related SPC)

and participants' gender, ethnicity, age, or family-of-origin SES on the slope of their career goal expectancy.

Collectively, the predictors account for substantial between-person variance, some within-person variance, and some slope variance. The results provide strong support for Hypothesis 4a, and indicate that participants who are highly engaged with the career goals have enhanced expectations that they will attain their career goals. Additionally, the results provide moderate support for Hypothesis 4b, and indicate that participants who disengage from their career goals tend to report diminished expectations that they will attain their career goals.

Table 35
Results of multilevel model analyses predicting participants' career goal expectancy.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	3.21 (.04)*	Varies	3.24 (.08)*	3.25 (.04)*	Varies	3.23 (.11)*
Slope				-.03 (.02)	Varies	.01 (.04)
Career SPC [a]		.21 (.03)*	.16 (.05)*		.18 (.05)*	.15 (.07)*
Career SSC [a]		.16 (.03)*	.14 (.03)*		.14 (.03)*	.14 (.04)*
Career CPC [a]		.16 (.02)*	.01 (.04)		.14 (.04)*	.02 (.06)
Career CSC-Disengage [a]		-.04 (.02)*	.02 (.02)		-.05 (.03)	.03 (.03)
Career CSC-Reengagement [a]		-.03 (.02)	-.08 (.03)*		-.05 (.03)	-.09 (.04)*
PA: Ability [a]		.19 (.03)*	.09 (.05)		.18 (.04)*	.04 (.08)
PA: Effort [a]		.16 (.03)*	-.03 (.04)		.14 (.04)*	-.05 (.07)
PA: Connections [a]		.12 (.03)*	.01 (.03)		.14 (.04)*	.05 (.05)
PA: Luck [a]		-.02 (.02)	-.02 (.02)		.02 (.03)	.02 (.03)
Societal Beliefs: Merit [a]		.05 (.03)	-.03 (.04)		.06 (.04)	-.02 (.05)
Societal Beliefs: Privilege [a]		-.01 (.03)	.04 (.04)		-.04 (.04)	-.00 (.06)
Societal Beliefs: Connections [a]		-.00 (.03)	.01 (.04)		-.04 (.04)	.02 (.06)
Just World Beliefs [a]		.04 (.02)*	.03 (.02)		.05 (.03)	.07 (.03)*

Present SES [a]	.03 (.01)	.03 (.02)	.03 (.02)	.03 (.02)
Family-of-origin SES [a]	.01 (.01)	.01 (.02)	.02 (.02)	.01 (.02)
Female	-.03 (.07)	.00 (.07)	.00 (.08)	.04 (.09)
Age [a]	.03 (.02)	.01 (.02)	.03 (.02)	.00 (.02)
Ethnicity (White reference group)				
Asian	-.16 (.09)	-.11 (.09)	-.11 (.10)	-.09 (.11)
Latino/a	.14 (.12)	.03 (.12)	.19 (.14)	.09 (.15)
Mixed / Other	.15 (.10)	.01 (.10)	.18 (.12)	.01 (.13)
Attending graduate school	.09 (.07)	.05 (.07)	.11 (.13)	.04 (.15)
Undergraduate GPA	.08 (.08)	.06 (.07)	.13 (.10)	.10 (.09)
Major: Unemployment Rate [a]	.00 (.03)	-.00 (.03)	-.02 (.04)	-.02 (.04)
Major: Income [a]	.00 (.00)	.00 (.00)	.00 (.00)	-.00 (.01)
Work: Income [a]	-.02 (.01)	-.05 (.02)*	-.00 (.02)	-.06 (.03)*
Work helps career goals [a]	.05 (.02)*	.06 (.02)*	.05 (.03)*	.06 (.04)
Fixed Effects - Slope				
Career SPC [a]			.02 (.02)	-.00 (.04)
Career SSC [a]			.01 (.02)	-.01 (.02)
Career CPC [a]			.02 (.02)	.01 (.03)
Career CSC-Disengage [a]			.01 (.01)	-.00 (.02)
Career CSC-Reengagement [a]			.01 (.02)	.00 (.02)
PA: Ability [a]			.01 (.02)	.04 (.04)
PA: Effort [a]			.01 (.02)	.02 (.04)
PA: Connections [a]			-.01 (.02)	-.04 (.03)
PA: Luck [a]			-.03 (.01)*	-.03 (.02)
Societal Beliefs: Merit [a]			-.01 (.02)	-.01 (.03)
Societal Beliefs: Privilege [a]			.02 (.02)	.04 (.03)
Societal Beliefs: Connections [a]			.04 (.02)	-.01 (.03)
Just World Beliefs [a]			-.01 (.01)	-.02 (.02)
Present SES [a]			-.01 (.01)	-.01 (.01)

Family-of-origin SES [a]					-.00 (.01)	.00 (.01)
Female					-.03 (.03)	-.03 (.04)
Age [a]					-.00 (.01)	.01 (.01)
Ethnicity (White reference group)						
Asian					-.04 (.04)	-.01 (.05)
Latino/a					-.04 (.06)	-.04 (.06)
Mixed / Other					-.03 (.05)	-.00 (.05)
Attending graduate school					.02 (.06)	.02 (.07)
Undergraduate GPA					-.03 (.04)	-.03 (.04)
Major: Unemployment Rate [a]					.01 (.01)	.02 (.02)
Major: Income [a]					-.00 (.00)	.00 (.00)
Work: Income [a]					.01 (.01)	.00 (.00)
Work helps career goals [a]					.00 (.01)	-.00 (.02)
Random Effects						
Variance Slope				.01 (.01)	Varies	.00 [b]
Between-person variance	.23 (.03)	Varies	.13 (.02)	.27 (.04)	Varies	.16 [b]
Within-person variance	.23 (.01)	Varies	.22 (.01)	.21 (.02)	Varies	.21 [b]
Model Fit Statistics						
Deviance	1320.65	Varies	1215.78	1315.39	Varies	1194.51
AIC	1326.65	Varies	1273.78	1327.39	Varies	1302.51
BIC	1340.48	Varies	1407.49	1355.05	Varies	1551.49
Number of Participants	211	Varies	211	211	Varies	211
Observations	743	Varies	743	743	Varies	743

Notes: * $p < .05$. [a] Grand-mean centered. Predictors entered individually in Models 2 and 5.

Career goal value. As seen in Table 36 below, participants' career-related selective secondary control is significantly positively associated with their career goal value ($B = .13$ (.03), $p < .05$), while controlling for the other covariates in the model. In addition, participants' career-related selective primary control ($B = .16$ (.03), $p < .05$), and compensatory primary control ($B =$

.12 (.03), $p < .05$), are significantly positively associated with their career goal value. However, these relationships become non-significant when controlling for the other covariates in the model. The results also indicate that participants' ability-oriented personal agency beliefs (B = .09 (.03), $p < .05$), effort-oriented personal agency beliefs (B = .12 (.03), $p < .05$), connections-oriented personal agency beliefs (B = .07 (.03), $p < .05$), and merit-oriented societal beliefs (B = .07 (.03), $p < .05$), are significantly positively associated with their career goal value. However, these relationships also become non-significant when controlling for the other covariates in the model. Model 6 indicates that participants who are working in a job that they feel helps them to attain their career goals place marginally more value on attaining their career goals, but significantly steeper declines in their career goal value over time. Models 5 and 6 indicate that participants whose major has a high unemployment rate place significantly less value on their career goals, but significantly steeper increases in their career goal value over time; indicating a regression to the mean. Similarly, participants' just world beliefs has a marginally to significant positive association with career goal value, but significantly steeper decreases in career goal value over time; again indicating a regression to the mean. Finally, Models 2, 3 and 6 indicate that participants who are making more money place significantly less value on attaining their career goals. There are no significant interactions between the main predictor variable (career-related SSC) and participants' gender, ethnicity, age, or family-of-origin SES on the slope of their career goal value.

Collectively, the predictors account for substantial between-person variance, some within-person variance, and some slope variance. The results provide strong support for Hypothesis 4a, and indicate that participants who are highly engaged with their career goals place more value on attaining these goals. However, the results do not support Hypothesis 4b

regarding the hypothesized negative relationship between career-related goal disengagement strategies and career goal value.

Table 36
Results of multilevel model analyses predicting participants' career goal value.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	3.60 (.03)*	Varies	3.56 (.09)*	3.61 (.04)*	Varies	3.62 (.09)*
Slope				-.04 (.02)*	Varies	-.05 (.04)
Career SPC [a]		.16 (.03)*	.07 (.04)		.16 (.04)*	.04 (.07)
Career SSC [a]		.15 (.02)*	.13 (.03)*		.14 (.03)*	.12 (.04)*
Career CPC [a]		.12 (.03)*	.02 (.04)		.12 (.04)*	.06 (.06)
Career CSC-Disengage [a]		-.02 (.02)	-.00 (.02)		-.04 (.03)	-.01 (.03)
Career CSC-Reengagement [a]		-.00 (.02)	-.05 (.03)		-.00 (.03)	-.04 (.04)
PA: Ability [a]		.09 (.03)*	.03 (.05)		.09 (.04)*	-.05 (.07)
PA: Effort [a]		.12 (.03)*	.02 (.04)		.11 (.04)*	.03 (.07)
PA: Connections [a]		.07 (.03)*	.03 (.03)		.10 (.03)*	.04 (.04)
PA: Luck [a]		-.01 (.02)	-.03 (.02)		.02 (.02)	.04 (.03)
Societal Beliefs: Merit [a]		.07 (.03)*	-.03 (.04)		.08 (.04)*	-.03 (.05)
Societal Beliefs: Privilege [a]		.05 (.03)	.07 (.04)		.03 (.04)	.01 (.05)
Societal Beliefs: Connections [a]		.04 (.03)	-.01 (.04)		.01 (.04)	-.00 (.06)
Just World Beliefs [a]		.01 (.02)	.01 (.02)		.05 (.03)	.08 (.03)*
Present SES [a]		.00 (.01)	.01 (.02)		.00 (.02)	-.01 (.02)
Family-of-origin SES [a]		.00 (.01)	.01 (.01)		.01 (.02)	.03 (.02)
Female		.04 (.07)	-.04 (.06)		.12 (.07)	.02 (.07)
Age [a]		.01 (.02)	.01 (.02)		.02 (.02)	.03 (.02)
Ethnicity (White reference group)						
Asian		.02 (.08)	.09 (.08)		-.01 (.10)	-.01 (.10)
Latino/a		-.04 (.11)	-.02 (.11)		-.06 (.13)	-.04 (.13)

Mixed / Other	.13 (.10)	.04 (.09)	.11 (.11)	-.06 (.11)
Attending graduate school	.07 (.07)	.04 (.07)	.20 (.13)	.14 (.14)
Undergraduate GPA	.07 (.07)	.08 (.07)	.12 (.08)	.07 (.08)
Major: Unemployment Rate [a]	-.03 (.03)	-.04 (.03)	-.08 (.03)*	-.09 (.03)*
Major: Income [a]	-.00 (.00)	-.00 (.00)	.00 (.00)	-.01 (.00)
Work: Income [a]	-.03 (.01)*	-.03 (.02)*	-.01 (.02)	-.06 (.02)*
Work helps career goals [a]	-.02 (.02)	-.02 (.03)	.03 (.02)	.04 (.03)
Fixed Effects - Slope				
Career SPC [a]			-.01 (.02)	.00 (.04)
Career SSC [a]			.01 (.02)	.01 (.02)
Career CPC [a]			-.00 (.02)	-.02 (.03)
Career CSC-Disengage [a]			.01 (.01)	.01 (.02)
Career CSC-Reengagement [a]			.00 (.02)	-.00 (.02)
PA: Ability [a]			.00 (.02)	.06 (.04)
PA: Effort [a]			.01 (.02)	-.01 (.04)
PA: Connections [a]			-.02 (.02)	-.01 (.02)
PA: Luck [a]			-.02 (.01)	-.05 (.02)*
Societal Beliefs: Merit [a]			-.01 (.02)	-.00 (.03)
Societal Beliefs: Privilege [a]			.02 (.02)	.01 (.03)
Societal Beliefs: Connections [a]			.03 (.02)	-.01 (.03)
Just World Beliefs [a]			-.03 (.01)*	-.04 (.02)*
Present SES [a]			-.00 (.01)	.01 (.01)
Family-of-origin SES [a]			-.01 (.01)	-.01 (.01)
Female			-.06 (.03)	-.05 (.03)
Age [a]			-.01 (.01)	-.02 (.01)
Ethnicity (White reference group)				
Asian			.02 (.05)	.07 (.04)
Latino/a			.01 (.06)	.02 (.06)
Mixed / Other			.01 (.05)	.07 (.05)

Attending graduate school					-.04 (.06)	-.02 (.07)
Undergraduate GPA					-.03 (.04)	-.01 (.04)
Major: Unemployment Rate [a]					.04 (.01)*	.04 (.02)*
Major: Income [a]					-.00 (.00)	.00 (.00)
Work: Income [a]					-.01 (.01)	.02 (.01)
Work helps career goals [a]					-.02 (.01)	-.04 (.02)*
Random Effects						
Variance Slope				.02 (.01)	Varies	.00 (.00)
Between-person variance	.15 (.02)	Varies	.10 (.02)	.22 (.03)	Varies	.08 (.02)
Within-person variance	.23 (.01)	Varies	.22 (.01)	.20 (.01)	Varies	.20 (.01)
Model Fit Statistics						
Deviance	1266.00	Varies	1191.11	1255.25	Varies	1146.00
AIC	1272.00	Varies	1249.11	1267.25	Varies	1262.00
BIC	1285.85	Varies	1382.89	1294.93	Varies	1529.58
Number of Participants	211	Varies	211	211	Varies	211
Observations	745	Varies	745	745	Varies	745

Notes: [a] Grand-mean centered. [b] Standard error failed to calculate. Predictors entered individually in Models 2 and 5.
* $p < .05$

Career goal control. As seen in Table 37 below, participants' ability-oriented personal agency beliefs ($B = .12$ (.05), $p < .05$), and connections-oriented personal agency beliefs ($B = .07$ (.04), $p < .05$), are significantly positively associated with their career goal control while controlling for the other covariates in the model. In addition, participants' career-related selective primary control ($B = .18$ (.03), $p < .05$), career-related selective secondary control ($B = .10$ (.03), $p < .05$), and compensatory primary control ($B = .16$ (.03), $p < .05$), are significantly positively associated with their career goal control. However, these relationships become non-significant when controlling for the other covariates in the model. The results also indicate that participants' effort-oriented personal agency beliefs ($B = .18$ (.03), $p < .05$), and merit-oriented

societal beliefs (B = .07 (.03), p < .05), are significantly positively associated with their career goal control. However, these relationships become non-significant when controlling for the other covariates in the model. Also of interest is a significant positive relationship between career goal control and working in a job that helps participants' attain their career goals (B = .10 (.03), p < .05), while controlling for the other covariates in the model. Model 2 indicates that participants' just world beliefs are significantly positively associated with their career goal control, but this relationship becomes non-significant with the inclusion of the other covariates to the model.

Regarding demographics, Models 2 and 5 indicate that women report significantly less career goal control than men, but this relationship becomes non-significant with the inclusion of the other covariates to the model. Similarly, Models 2 and 5 indicate that participants of Asian ethnicity report significantly lower career goal control than participants of White ethnicity, but this relationship also becomes non-significant with the inclusion of the other covariates to the model. Models 2 and 5 also indicate that older participants report significantly more career goal control, but this relationship also becomes non-significant with the inclusion of the other covariates to the model. Finally, Model 6 indicates that participants who are making more money at their job report significantly lower career goal control. There are no significant interactions between the main predictor variable (career-related SPC) and participants' gender, ethnicity, age, or family-of-origin SES on the slope of their career goal control.

Collectively, the predictors account for some between-person variance, some within-person variance, and some slope variance. The results provide strong support for Hypothesis 4a, and indicate that participants who are highly engaged with the career goals report more control over attaining these goals. However, the results do not support Hypothesis 4b regarding the

hypothesized negative relationship between career-related goal disengagement strategies and career goal control.

Table 37
Results of multilevel model analyses predicting participants' career goal control.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	2.86 (.04)*	Varies	3.02 (.09)*	2.81 (.05)*	Varies	3.02 (.12)*
Slope				.03 (.02)	Varies	-.00 (.04)
Career SPC [a]		.18 (.03)*	.09 (.05)		.18 (.05)*	.07 (.08)
Career SSC [a]		.10 (.02)*	.02 (.03)		.09 (.03)*	.04 (.05)
Career CPC [a]		.16 (.03)*	.05 (.04)		.17 (.04)*	.10 (.07)
Career CSC-Disengage [a]		-.02 (.02)	.00 (.02)		-.04 (.03)	-.01 (.04)
Career CSC-Reengagement [a]		-.00 (.02)	-.04 (.03)		-.02 (.03)	-.05 (.05)
PA: Ability [a]		.24 (.03)*	.13 (.05)*		.22 (.04)*	.05 (.08)
PA: Effort [a]		.18 (.03)*	.03 (.05)		.17 (.04)*	.09 (.07)
PA: Connections [a]		.16 (.03)*	.07 (.03)*		.17 (.04)*	.08 (.05)
PA: Luck [a]		-.02 (.02)	-.03 (.02)		.01 (.03)	-.00 (.04)
Societal Beliefs: Merit [a]		.05 (.03)	-.03 (.04)		-.00 (.04)	-.08 (.05)
Societal Beliefs: Privilege [a]		.02 (.03)	.07 (.04)		.04 (.04)	.08 (.06)
Societal Beliefs: Connections [a]		.02 (.03)	-.03 (.04)		.01 (.04)	-.02 (.06)
Just World Beliefs [a]		.04 (.02)*	.03 (.02)		.05 (.03)	.04 (.04)
Present SES [a]		.03 (.01)*	.02 (.02)		.02 (.02)	.01 (.03)
Family-of-origin SES [a]		-.00 (.01)	.01 (.02)		-.01 (.02)	.00 (.02)
Female		-.14 (.07)*	-.10 (.07)		-.18 (.08)*	-.12 (.10)
Age [a]		.04 (.02)*	.02 (.02)		.04 (.02)*	.02 (.03)
Ethnicity (White reference group)						
Asian		-.19 (.09)*	-.13 (.10)		-.23 (.11)*	-.22 (.13)
Latino/a		.06 (.12)	-.03 (.13)		.04 (.15)	-.09 (.17)

Mixed / Other	.04 (.10)	-.09 (.11)	.03 (.12)	-.13 (.14)
Attending graduate school	.00 (.07)	-.08 (.08)	-.01 (.14)	-.19 (.15)
Undergraduate GPA	.07 (.09)	.04 (.08)	.13 (.10)	.09 (.11)
Major: Unemployment Rate [a]	.02 (.03)	.01 (.03)	.00 (.04)	.00 (.04)
Major: Income [a]	-.00 (.00)	-.00 (.00)	.00 (.00)	.00 (.01)
Work: Income [a]	.01 (.01)	.00 (.02)	.00 (.02)	-.06 (.03)*
Work helps career goals [a]	.08 (.02)*	.07 (.02)*	.06 (.03)*	.08 (.04)*
Fixed Effects - Slope				
Career SPC [a]			.01 (.02)	.02 (.04)
Career SSC [a]			.00 (.02)	-.02 (.02)
Career CPC [a]			-.00 (.02)	-.03 (.03)
Career CSC-Disengage [a]			.01 (.01)	.00 (.02)
Career CSC-Reengagement [a]			.02 (.02)	.01 (.02)
PA: Ability [a]			.01 (.02)	.05 (.04)
PA: Effort [a]			.01 (.02)	-.03 (.04)
PA: Connections [a]			-.00 (.02)	-.00 (.03)
PA: Luck [a]			-.02 (.01)*	-.02 (.02)
Societal Beliefs: Merit [a]			.04 (.02)*	.03 (.03)
Societal Beliefs: Privilege [a]			-.02 (.02)	-.00 (.03)
Societal Beliefs: Connections [a]			.01 (.02)	-.00 (.03)
Just World Beliefs [a]			-.01 (.01)	-.01 (.02)
Present SES [a]			.00 (.01)	.00 (.01)
Family-of-origin SES [a]			.00 (.01)	.00 (.01)
Female			.03 (.03)	.01 (.04)
Age [a]			.00 (.01)	.00 (.01)
Ethnicity (White reference group)				
Asian			.03 (.04)	.07 (.05)
Latino/a			.01 (.06)	.03 (.06)
Mixed / Other			.01 (.05)	.02 (.05)

Attending graduate school					-.02 (.06)	.05 (.07)
Undergraduate GPA					-.04 (.04)	-.03 (.04)
Major: Unemployment Rate [a]					.01 (.01)	.01 (.02)
Major: Income [a]					-.00 (.00)	-.00 (.00)
Work: Income [a]					-.00 (.01)	.01 (.01)
Work helps career goals [a]					.01 (.01)	-.01 (.02)
Random Effects						
Variance Slope				.01 (.01)	Varies	.00 (.00)
Between-person variance	.25 (.03)	Varies	.17 (.02)	.32 (.05)	Varies	.24 (.03)
Within-person variance	.24 (.01)	Varies	.23 (.01)	.23 (.02)	Varies	.22 (.01)
Model Fit Statistics						
Deviance	1377.68	Varies	1287.80	1368.31	Varies	1257.78
AIC	1383.68	Varies	1345.80	1380.31	Varies	1373.78
BIC	1397.53	Varies	1479.67	1408.01	Varies	1641.51
Number of Participants	211	Varies	211	211	Varies	211
Observations	747	Varies	747	747	Varies	747

Notes: * $p < .05$. [a] Grand-mean centered. Predictors entered individually in Models 2 and 5.

Satisfaction with career goal progress. As seen in Table 38 below, participants' ability-oriented personal agency beliefs ($B = .19$ (.06), $p < .05$), and connections-oriented personal agency beliefs ($B = .12$ (.04), $p < .05$), are significantly positively associated with their satisfaction with their progress toward attaining their career goals, while participants' luck-oriented personal agency beliefs is significantly negatively associated with their satisfaction with their progress toward attaining their career goals ($B = -.06$ (.04), $p < .05$), while controlling for the other covariates in the model. In addition, participants' career-related selective primary control ($B = .25$ (.04), $p < .05$), selective secondary control ($B = .11$ (.03), $p < .05$), and compensatory primary control ($B = .21$ (.04), $p < .05$), are significantly positively associated with

their satisfaction with their progress toward attaining their career goals. However, these relationships become non-significant when controlling for the other covariates in the model. Participants' effort-oriented personal agency beliefs (B = .22 (.03), p < .05), and merit-oriented societal beliefs (B = .07 (.03), p < .05), are also significantly positively associated with their satisfaction with their progress toward attaining their career goals. However, these relationships become non-significant when controlling for the other covariates in the model.

Also of interest is a significant positive relationship between satisfaction with career goal progress and working in a job that helps participants attain their career goals (B = .23 (.04), p < .05), while controlling for the other covariates in the model. Models 2, 3 and 6 indicate that there is a significant positive association between participants' just world beliefs and their satisfaction with career goal progress. Model 2 indicates a significant positive association between participants' present SES and their satisfaction with career goal progress. Across all models, participants of Asian ethnicity report significantly less satisfaction with their career goal progress than participants of White ethnicity do. Additionally, across all models participants' GPA is significantly positively associated with their satisfaction with their career goal progress. Model 3 indicates a significant negative relationship between participants' major-related unemployment rate and their satisfaction with their career goal progress. Finally, Models 3 and 6 indicate a significant negative relationship between participants' work-related income and their satisfaction with their career goal progress. There are no significant interactions between the main predictor variable (career-related SPC) and participants' gender, ethnicity, age, or family-of-origin SES on the slope of their satisfaction with their progress toward attaining their career goal.

Collectively, the predictors account for substantial between-person variance, some within-person variance, and some slope variance. The results provide strong support for

Hypothesis 4a, and indicate that participants who are highly engaged with the career goals report greater satisfaction with their progress toward attaining their career goals. However, the results do not support Hypothesis 4b regarding the hypothesized negative relationship between career-related goal disengagement strategies and satisfaction with career goal progress.

Table 38
Results of multilevel model analyses predicting participants' satisfaction with career goal progress.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	2.68 (.05)*	Varies	2.93 (.11)*	2.67 (.06)*	Varies	3.04 (.13)*
Slope				.01 (.02)	Varies	-.10 (.06)
Career SPC [a]		.25 (.04)*	.11 (.06)*		.27 (.06)*	.18 (.09)*
Career SSC [a]		.11 (.03)*	.02 (.04)		.13 (.04)*	.08 (.05)
Career CPC [a]		.21 (.04)*	.06 (.05)		.19 (.05)*	.06 (.08)
Career CSC-Disengage [a]		-.02 (.02)	.03 (.03)		-.04 (.03)	.05 (.04)
Career CSC-Reengagement [a]		.00 (.03)	-.05 (.04)		-.01 (.04)	-.09 (.05)
PA: Ability [a]		.31 (.04)*	.20 (.06)*		.31 (.05)*	.13 (.09)
PA: Effort [a]		.22 (.04)*	-.04 (.06)		.24 (.05)*	-.00 (.09)
PA: Connections [a]		.22 (.04)*	.12 (.04)*		.21 (.04)*	.17 (.06)*
PA: Luck [a]		-.03 (.02)	-.06 (.03)*		-.03 (.03)	-.07 (.04)
Societal Beliefs: Merit [a]		.07 (.04)	-.05 (.05)		.06 (.05)	-.10 (.06)
Societal Beliefs: Privilege [a]		-.02 (.04)	.06 (.05)		-.04 (.05)	.05 (.07)
Societal Beliefs: Connections [a]		.02 (.04)	-.01 (.05)		.00 (.05)	-.02 (.07)
Just World Beliefs [a]		.07 (.03)*	.06 (.03)		.07 (.04)*	.09 (.04)*
Present SES [a]		.05 (.02)*	.03 (.02)		.04 (.02)	.05 (.03)
Family-of-origin SES [a]		.02 (.02)	.00 (.02)		-.01 (.02)	-.03 (.02)
Female		-.05 (.10)	-.03 (.09)		-.11 (.11)	-.09 (.10)
Age [a]		.02 (.02)	-.01 (.02)		.02 (.03)	-.03 (.03)

Ethnicity (White reference group)				
Asian	-.41 (.12)*	-.41 (.12)*	-.44 (.13)*	-.56 (.13)*
Latino/a	-.04 (.16)	-.06 (.16)	-.06 (.18)	-.21 (.18)
Mixed / Other	-.02 (.14)	-.21 (.13)	-.05 (.15)	-.33 (.15)*
Attending graduate school	.08 (.09)	.01 (.09)	.22 (.16)	.19 (.17)
Undergraduate GPA	.33 (.11)*	.24 (.10)*	.43 (.13)*	.30 (.11)*
Major: Unemployment Rate [a]	-.04 (.04)	-.08 (.04)*	-.06 (.05)	-.09 (.05)
Major: Income [a]	.00 (.01)	-.00 (.01)	.01 (.01)	-.00 (.01)
Work: Income [a]	.02 (.01)	-.06 (.02)*	-.01 (.02)	-.11 (.03)*
Work helps career goals [a]	.15 (.02)*	.19 (.03)*	.09 (.03)*	.14 (.05)*
Fixed Effects - Slope				
Career SPC [a]			-.02 (.03)	-.04 (.05)
Career SSC [a]			-.02 (.02)	-.05 (.03)
Career CPC [a]			.01 (.03)	.02 (.04)
Career CSC-Disengage [a]			.01 (.02)	-.02 (.02)
Career CSC-Reengagement [a]			.00 (.02)	.02 (.03)
PA: Ability [a]			-.01 (.03)	.02 (.05)
PA: Effort [a]			-.03 (.03)	-.03 (.05)
PA: Connections [a]			.01 (.02)	-.04 (.03)
PA: Luck [a]			.01 (.02)	.01 (.02)
Societal Beliefs: Merit [a]			.00 (.03)	.04 (.04)
Societal Beliefs: Privilege [a]			.01 (.03)	.01 (.04)
Societal Beliefs: Connections [a]			.02 (.03)	.02 (.04)
Just World Beliefs [a]			-.00 (.02)	-.03 (.02)
Present SES [a]			.01 (.01)	-.01 (.02)
Family-of-origin SES [a]			.02 (.01)*	.02 (.01)
Female			.05 (.04)	.04 (.05)
Age [a]			-.00 (.01)	.01 (.01)
Ethnicity (White reference group)				

Asian					.02 (.05)	.10 (.06)
Latino/a					.01 (.07)	.09 (.08)
Mixed / Other					.02 (.06)	.08 (.07)
Attending graduate school					-.06 (.08)	-.04 (.08)
Undergraduate GPA					-.07 (.05)	-.05 (.05)
Major: Unemployment Rate [a]					.01 (.02)	.00 (.02)
Major: Income [a]					-.00 (.00)	-.00 (.00)
Work: Income [a]					.02 (.01)	.03 (.02)
Work helps career goals [a]					.05 (.02)*	.04 (.02)
Random Effects						
Variance Slope				.04 (.01)	Varies	.02 (.01)
Between-person variance	.49 (.06)	Varies	.25 (.04)	.53 (.08)	Varies	.24 (.05)
Within-person variance	.36 (.02)	Varies	.34 (.02)	.30 (.02)	Varies	.29 (.02)
Model Fit Statistics						
Deviance	1720.77	Varies	1574.34	1706.21	Varies	1531.81
AIC	1726.77	Varies	1632.34	1718.21	Varies	1647.81
BIC	1740.60	Varies	1765.98	1745.86	Varies	1915.08
Number of Participants	211	Varies	211	211	Varies	211
Observations	741	Varies	741	741	Varies	741

Notes: * $p < .05$. [a] Grand-mean centered. Predictors entered individually in Models 2 and 5.

Research Question 5: How does an individual's career development influence her/his subsequent beliefs about socioeconomic status attainment?

Hypothesis 5: *Successful career development will enhance individuals' perceptions of opportunities for socioeconomic status attainment, while setbacks will diminish individuals' perceptions of opportunities for socioeconomic status attainment.*

As this hypothesis is primarily concerned with changes in participants' perceptions of opportunity over time, the focus of the analyses is on time by predictor interactions. Thus, to test

this hypothesis, growth-curve multilevel models are run predicting participants' just world beliefs, merit-, privilege- and connections-oriented societal beliefs, and ability-, effort-, connections- and luck-oriented personal agency beliefs. To keep the sample consistent across analyses, the sample was restricted to 211 participants with 735 observations for each analysis. Participants' career goal expectancy, career goal control, satisfaction with progress toward attaining their career goals, the helpfulness of their current work toward attaining their career goals, work-related income, and their present SES are assessed independently of one another. Participants' demographics are controlled for in the analyses, including family-of-origin SES, sex, age, ethnicity, whether the participants are currently attending graduate school, undergraduate GPA, and major-specific unemployment rate and income. The results are discussed below and presented in Table 39. Note that some significant interactions are counter to observed significant mean-level differences. As these interactions indicate regressions to the mean, they are not depicted or discussed. Collectively, the results provide strong support for Hypothesis 5, and indicate that successful career development is generally associated with enhanced perceptions of controllable SES-attainment factors, while setbacks in career development are generally associated with enhanced perceptions of uncontrollable SES-attainment factors.

Consistent with Hypothesis 5, there is a significant time by career goal control interaction predicting merit-oriented societal beliefs ($B = .06$ (.03), $p < .05$). The interaction is depicted in Figure 10, and indicates that participants who have higher career goal control report steeper increases in their merit-oriented societal beliefs over time. Similarly, there is also a significant time by present SES interaction predicting merit-oriented societal beliefs ($B = .03$ (.01), $p < .05$).

The interaction is depicted in Figure 11, and indicates that participants who have higher present SES report steeper increases in their merit-oriented societal beliefs over time.

The results also indicate significant time by career progress interactions in predicting personal agency beliefs. There is a significant time by career goal expectancy interaction predicting ability-oriented personal agency beliefs (B = .06 (.03), p < .05). The interaction is depicted in Figure 12, and indicates that participants who have higher career goal expectancy report steeper increases in their ability-oriented personal agency beliefs over time. Similarly, there is a significant time by career goal control interaction predicting ability-oriented personal agency beliefs (B = .08 (.03), p < .05). The interaction is depicted in Figure 13, and indicates that participants who have higher career goal control report steeper increases in their ability-oriented personal agency beliefs over time. There is also a significant time by job-helps-career-goals predicting ability-oriented personal agency beliefs (B = .07 (.03), p < .05). The interaction is depicted in Figure 14, and indicates that participants who work in a job that helps their career goals report steeper increases in their ability-oriented personal agency beliefs over time (B = .04 (.02), p < .05).

Regarding effort-oriented personal agency beliefs, there is a significant time by career goal expectancy interaction predicting effort-oriented personal agency beliefs (B = .06 (.03), p < .05). The interaction is depicted in Figure 15, and indicates that participants who have higher career goal expectancy report steeper increases in their effort-oriented personal agency beliefs over time. There is also a significant time by job-helps-career-goals predicting effort-oriented personal agency beliefs (B = .07 (.03), p < .05). The interaction is depicted in Figure 16, and indicates that participants who work in a job that helps their career goals report steeper increases in their effort-oriented personal agency beliefs over time (B = .04 (.02), p < .05).

Regarding luck-oriented personal agency beliefs, there is a significant time by career goal expectancy interaction predicting luck-oriented personal agency beliefs (B = -.04 (.02), $p < .05$). The interaction is depicted in Figure 17, and indicates that participants who have lower present SES report steeper increases in their luck-oriented personal agency beliefs over time.

There are some significant predictor by gender interactions on the slopes of participants' belief systems. Namely, at higher levels of career goal control and satisfaction with career progress, women report steeper increases in their just world beliefs over time. Similarly, at higher levels of career goal control, women report steeper increases in their merit-oriented societal beliefs over time. At higher levels of career goal control, satisfaction with career goal progress, and when working in a job that helps participants attain their career goals, women report steeper increases in their effort-oriented personal agency beliefs over time. At higher levels of work-related income, women report steeper increases in their connections-oriented personal agency beliefs over time. At lower levels of satisfaction with career goal progress and present SES, men report significantly steeper increases in their luck-oriented personal agency beliefs over time. Regarding ethnic differences, the results indicate that at higher levels of career goal control, participants of White ethnicity report steeper increases in their just world beliefs over time than participants of Asian ethnicity do. At higher levels of career goal control, participants of mixed/other ethnicity report steeper increases in their merit-oriented societal beliefs over time than participants of White ethnicity. Regarding age, at higher levels of present SES, younger participants report steeper increases in their merit-oriented societal beliefs over time. At higher levels of career goal expectancy, older participants report steeper increases in their ability-oriented personal agency beliefs over time. There are no interactions between the main predictors and family-of-origin SES.

Table 39

Results of multilevel model analyses predicting participants' satisfaction with their progress toward attaining their career goals.

		Societal Beliefs			Personal Agency Beliefs			
	JWG	Merit	Contacts	Privilege	Ability	Effort	Contacts	Luck
Fixed Effects - Intercept								
Goal Expectancy [a]	.15 (.07)*	.00 (.05)	.00 (.05)	-.02 (.05)	.03 (.05)	.03 (.06)	.11 (.06)	-.04 (.08)
Goal Control [a]	.15 (.07)*	-.04 (.05)	-.01 (.05)	.03 (.05)	.12 (.05)*	.14 (.05)*	.16 (.06)*	-.01 (.08)
Goal Progress Satisfaction [a]	.18 (.06)*	.00 (.04)	-.01 (.04)	.01 (.04)	.16 (.04)*	.13 (.04)*	.23 (.05)*	-.07 (.06)
Present SES [a]	.06 (.04)	.00 (.02)	-.05 (.03)*	-.02 (.02)	.04 (.02)	.00 (.03)	.02 (.03)	.07 (.04)
Work helps career goals [a]	.08 (.04)*	-.02 (.03)	-.02 (.03)	.01 (.03)	-.03 (.03)	-.04 (.03)	.01 (.03)	-.03 (.05)
Income [a]	.05 (.03)	.01 (.02)	-.02 (.02)	.01 (.02)	-.00 (.02)	-.02 (.02)	-.02 (.02)	.00 (.03)
Fixed Effects - Slope								
Goal Expectancy [a]	-.03 (.04)	.02 (.03)	.04 (.03)	.04 (.03)	.08 (.03)*	.06 (.03)*	-.01 (.03)	.03 (.04)
Goal Control [a]	-.09 (.04)*	.06 (.03)*	.04 (.03)	.02 (.03)	.07 (.03)*	.04 (.03)	.03 (.03)	-.02 (.04)
Goal Progress Satisfaction [a]	-.07 (.03)*	.02 (.02)	.04 (.02)	.02 (.02)	.01 (.02)	.00 (.02)	-.03 (.02)	.00 (.03)
Present SES [a]	-.01 (.02)	.03 (.01)*	.04 (.01)*	.02 (.01)	.00 (.01)	.02 (.01)	.01 (.01)	-.04 (.02)*
Work helps career goals [a]	-.02 (.02)	.01 (.01)	.01 (.02)	-.02 (.01)	.04 (.01)*	.04 (.02)*	.03 (.02)	-.02 (.02)
Income [a]	-.01 (.01)	-.00 (.01)	.00 (.01)	-.01 (.01)	.02 (.01)	.01 (.01)	.01 (.01)	-.01 (.02)

Notes: [a] Grand-mean centered. Independent variables entered in separate models, controlling for; Family-of-origin SES, Female, Age, Ethnicity, Attending graduate school, Undergraduate GPA, Major: Unemployment Rate, Major: Income; 211 participants with 735 observations. * $p < .05$

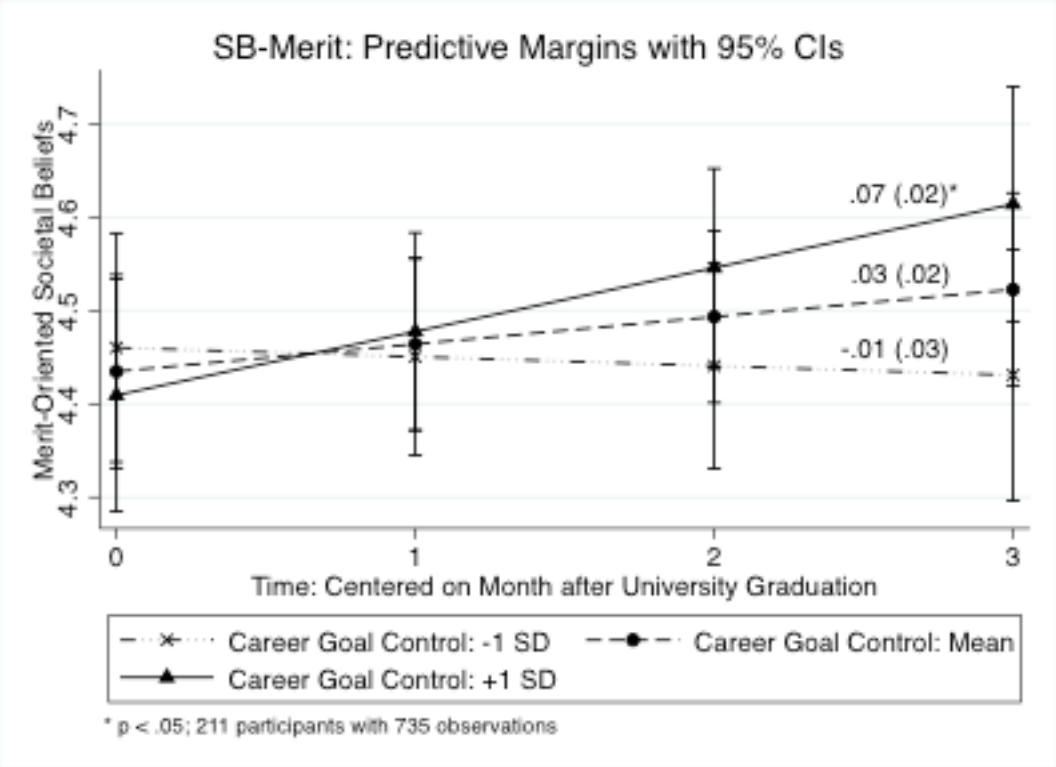

Figure 10. Participants' merit-oriented societal beliefs: predicted margins for time by career goal control interaction. Slopes presented for the mean and +/- 1 SD from the mean. Based on 211 participants with 735 observations.

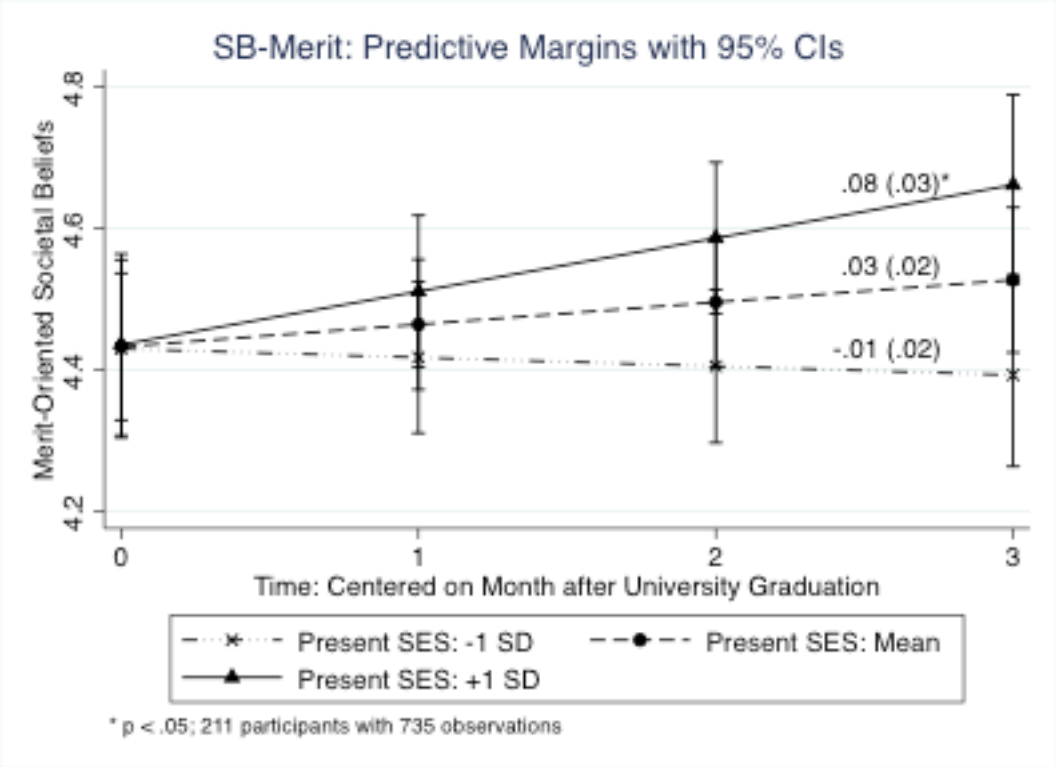

Figure 11. Participants' merit-oriented societal beliefs: predicted margins for time by present SES interaction. Slopes presented for the mean and +/- 1 SD from the mean. Based on 211 participants with 735 observations.

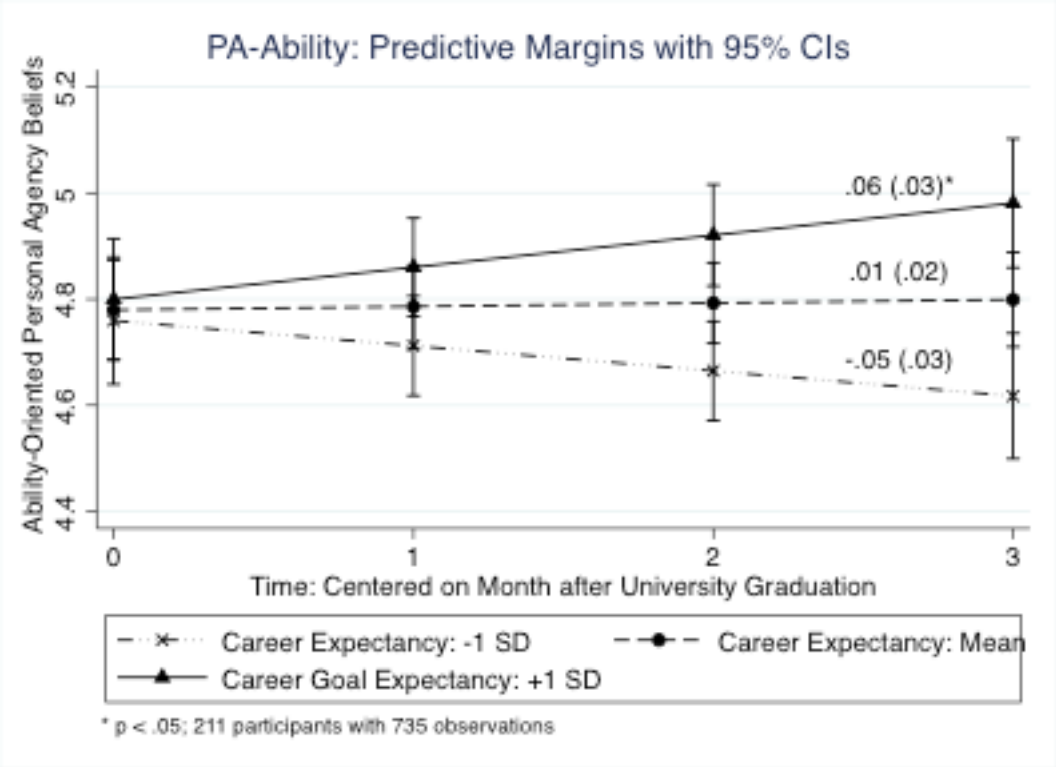

Figure 12. Participants' ability-oriented personal agency beliefs: predicted margins for time by career goal expectancy interaction. Slopes presented for the mean and +/- 1 SD from the mean. Based on 211 participants with 735 observations.

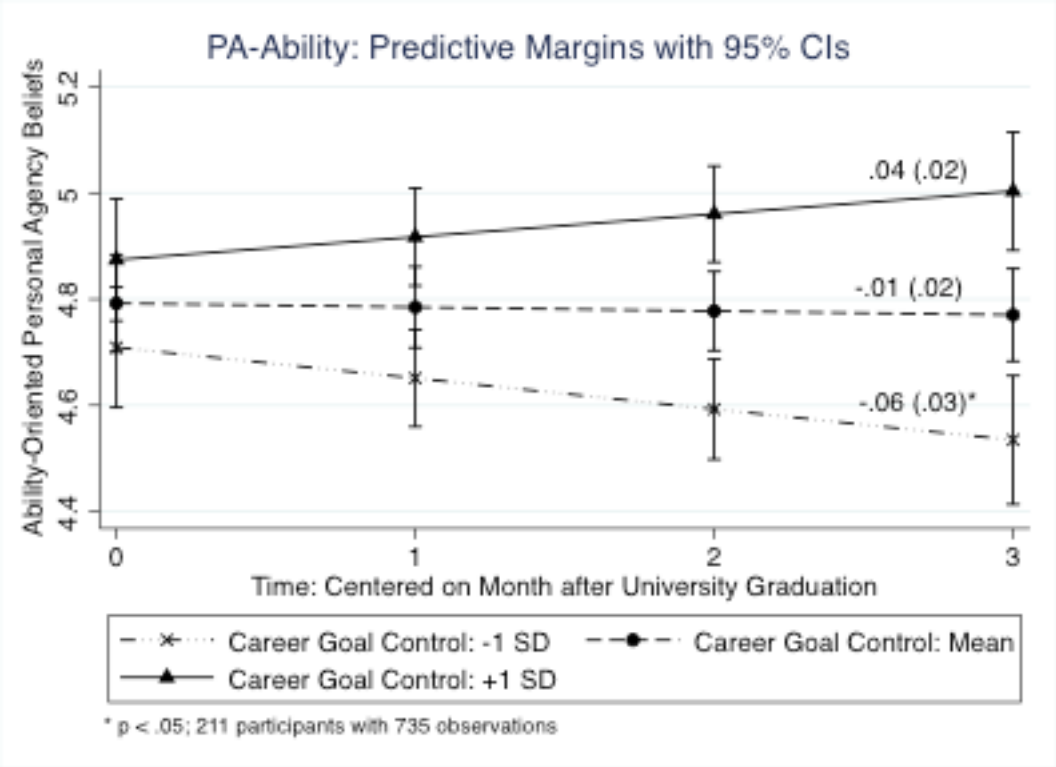

Figure 13. Participants' ability-oriented personal agency beliefs: predicted margins for time by career goal control interaction. Slopes presented for the mean and +/- 1 SD from the mean. Based on 211 participants with 735 observations.

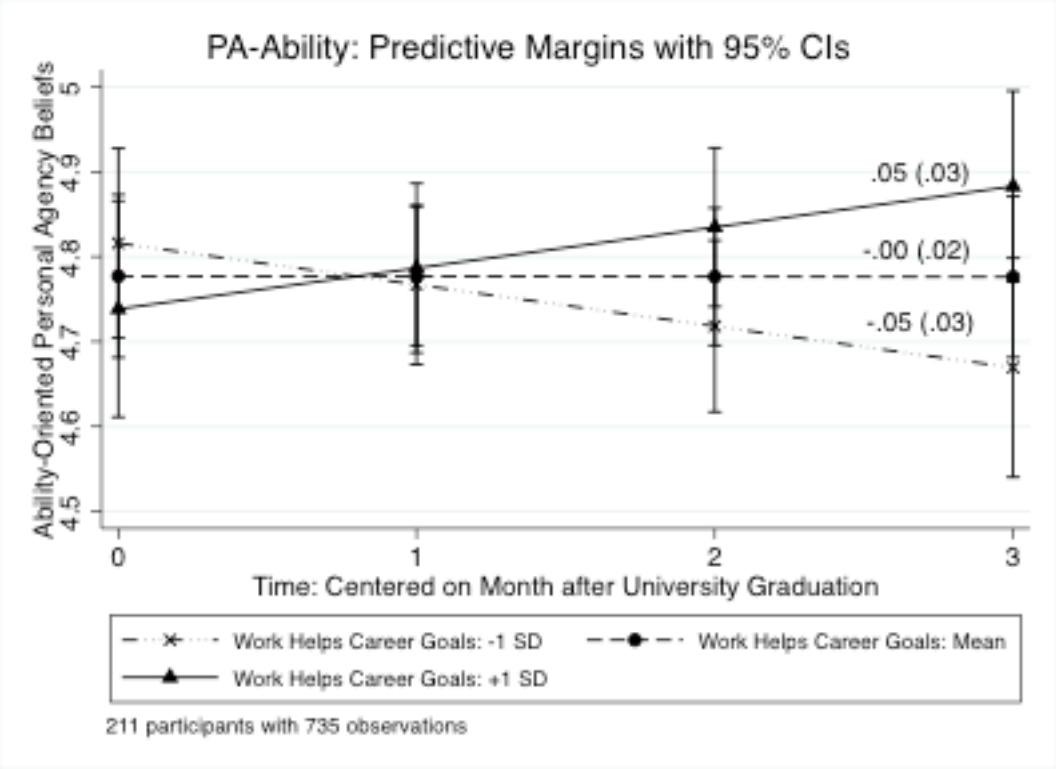

Figure 14. Participants' ability-oriented personal agency beliefs: predicted margins for time by working at a job that helps attain career goals interaction. Slopes presented for the mean and +/- 1 SD from the mean. Based on 211 participants with 735 observations.

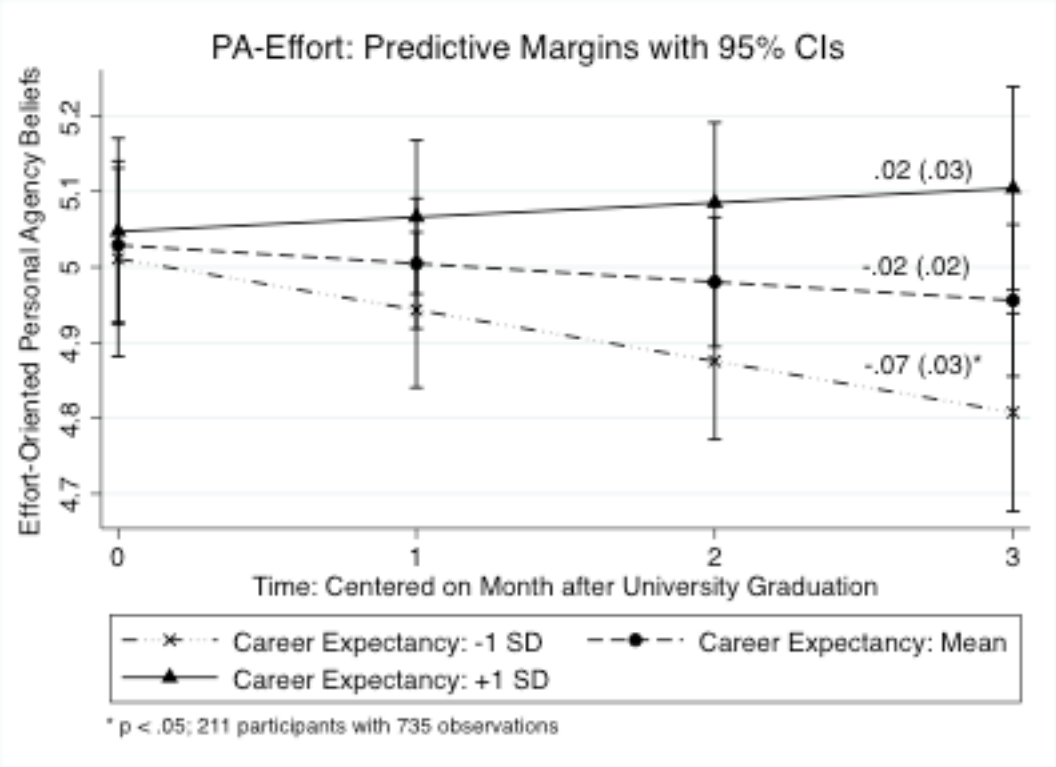

Figure 15. Participants' effort-oriented personal agency beliefs: predicted margins for time by career goal expectancy interaction. Slopes presented for the mean and +/- 1 SD from the mean. Based on 211 participants with 735 observations.

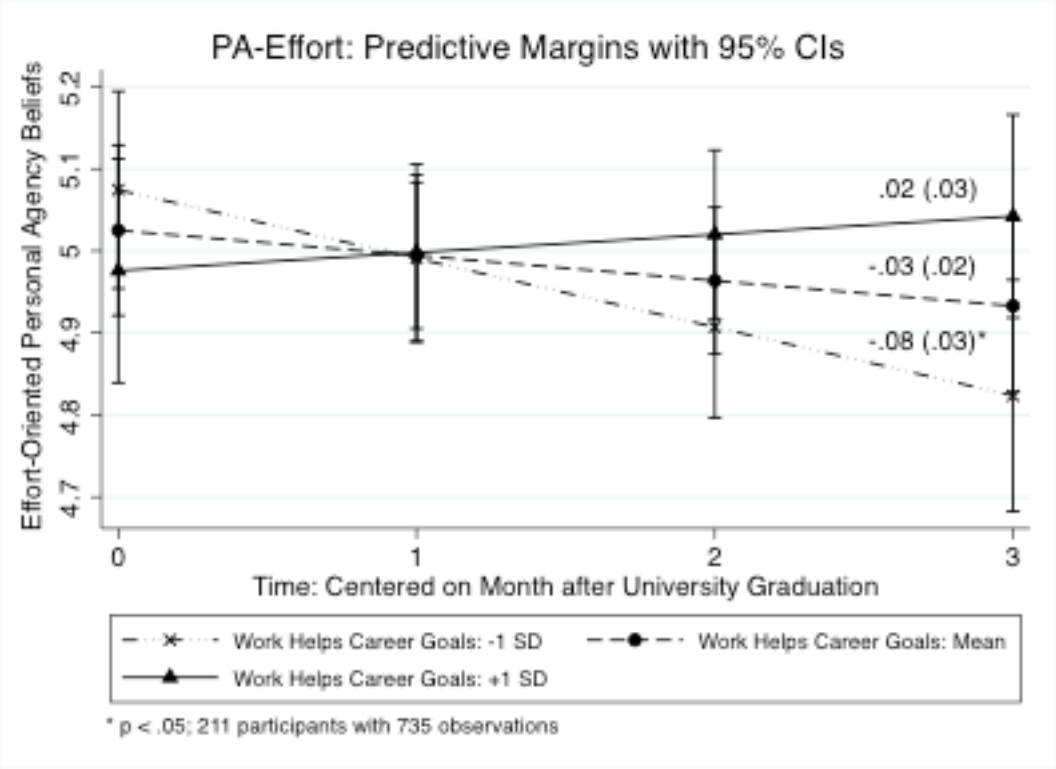

Figure 16. Participants' effort-oriented personal agency beliefs: predicted margins for time by working at a job that helps attain career goals interaction. Slopes presented for the mean and +/- 1 SD from the mean. Based on 211 participants with 735 observations.

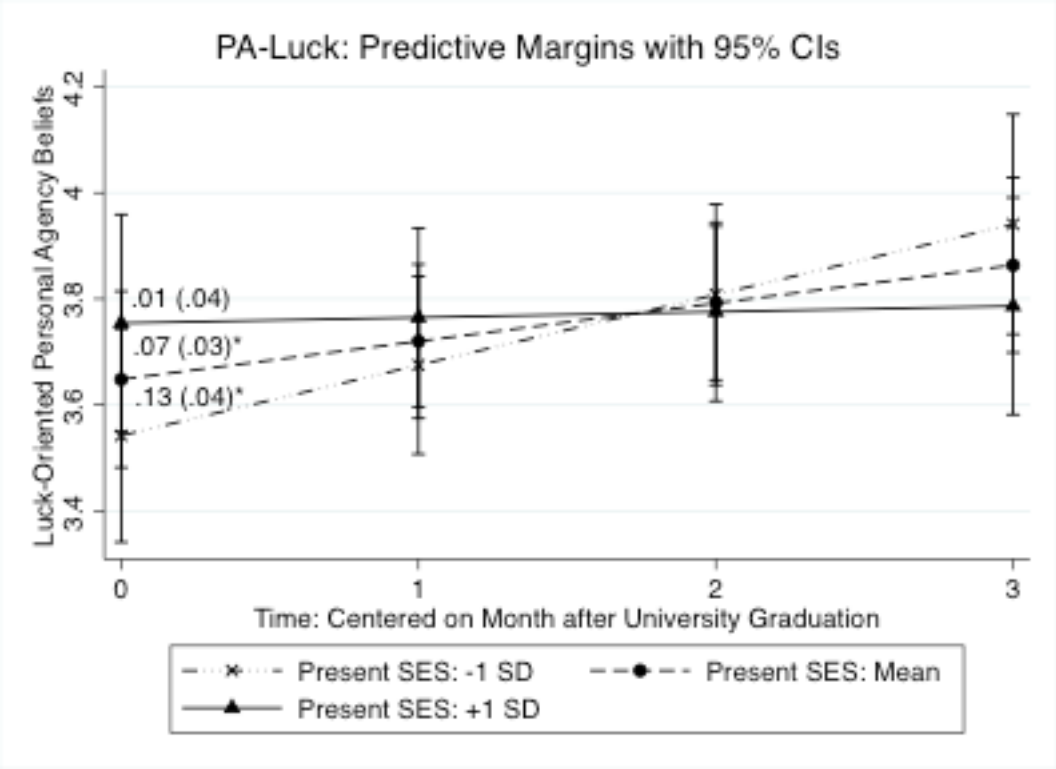

Figure 17. Participants' luck-oriented societal beliefs: predicted margins for time by present SES interaction. Slopes presented for the mean and +/- 1 SD from the mean. Based on 211 participants with 735 observations.

Discussion

The dissertation illustrates the roles that young adults' beliefs about society and about themselves play in their motivational commitment to career-related goals, the long-term effects of motivational commitment to these career-related goals, and how young adults' belief systems change in response to progress or setbacks in their career-related goal pursuits. The results are generally consistent with the hypothesized pathways, and collectively provide strong support for the theoretical model presented initially as Figure 2, and presented again below as Figure 18. After a brief summary of the study findings, the remainder of the discussion section expands upon these findings and discusses their implications for each of the research questions.

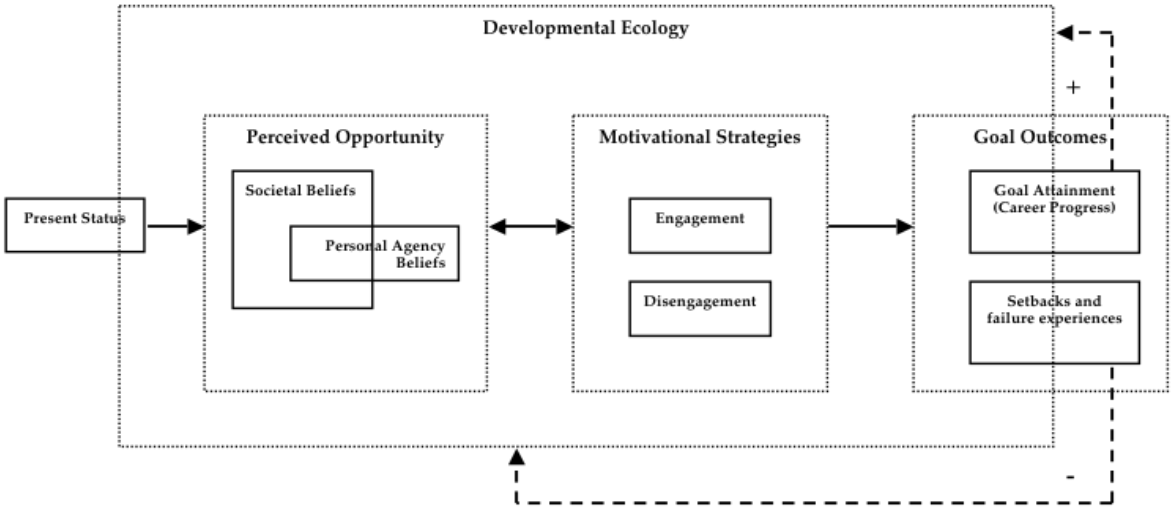

Figure 18. Theoretical model developed from the dissertation research.

Summary of Results

The results indicate that young adults' beliefs about socioeconomic status attainment are generally consistent with the dominant American ideology of intergenerational and intragenerational upward social mobility attained primarily through individual merit. The results further indicate that participants who believe the world is fair are more likely to believe that

individuals in America attained their socioeconomic status through merit. Next, the results indicate that participants align their broader belief systems about how individuals attain social status in America with compatible beliefs about how they themselves will attain their future socioeconomic status. Thus, individuals with high merit-oriented societal beliefs tend to report high merit-oriented personal agency beliefs, individuals with high connections-oriented societal beliefs tend to report high connections-oriented personal agency beliefs, and individuals with high privilege/fatalistic-oriented societal beliefs tend to report high luck-oriented personal agency beliefs. These belief systems are then differentially associated with participants' adoption of career-related goal engagement and goal disengagement strategies. In particular, merit- and connections-oriented belief systems are goal engagement promoting, while privilege- and luck-oriented belief systems are goal disengagement promoting. In turn, participants' adoption of career-related goal engagement strategies is positively associated with progress in career development, whereas adoption of career-related goal disengagement strategies is generally associated with stagnation or decline in career development. Finally, the study finds that participants' progress in their career development is generally associated with steeper increases over time in their adoption of goal engagement promoting belief systems (e.g., merit). Conversely, participants' who struggle in their career development tend to exhibit steeper increases over time in their adoption of goal disengagement promoting belief systems (e.g., privilege and luck).

Discussion of Research Questions

Research Question 1. *How do young adults believe that socioeconomic status is attained in America for people in general, and for themselves personally?* Despite recent social and economic uncertainty constraining young adults prospects for upward social mobility (Mazumder, 2005; Silvia, Quinlan & Seydell, 2011), the results indicate that university students are generally optimistic regarding their future socioeconomic status (SES) attainment. In both studies, we find a roughly two-rung difference between participants' expected SES and their present SES and family-of-origin SES. These results are consistent with prior research (Shane & Heckhausen, 2013), as well as notions of intergenerational and intragenerational upward social mobility inherent in the dominant ideology associated with the American dream. As the participants in the study were all either attending university or had just graduated from university, these results also coincide with the idea that attaining higher education facilitates upward social mobility.

In analyses that were not presented in the results section but that can be found in Appendix B, individuals' family-of-origin SES is a consistent predictor of participants' expected SES. In addition, this optimism regarding future upward social mobility appears to be enhanced by positive markers of SES progress (e.g., present SES, income, and working at a job that facilitates progress toward career goal attainment), while being resilient against constraints prohibiting SES attainment (e.g., graduating with a major associated with a high unemployment rate and a low expected income). Thus, young adults are optimistic regarding their future socioeconomic status attainment, but this optimism is anchored by their objective opportunities for socioeconomic status attainment.

Turning to beliefs about socioeconomic status attainment, the results indicate that participants generally attribute the attainment of SES to meritocratic factors. These findings support earlier research in our program (Shane & Heckhausen, 2013), which also finds that university students are more likely to endorse merit-oriented personal agency beliefs than luck-oriented personal agency. Furthermore, these findings are consistent with earlier research that finds an increase through childhood in children's attributions of merit-oriented factors for other people's wealth (Leahy, 1990), and research that finds these beliefs about other's SES remain predominately merit-oriented in young adulthood (Christopher & Schlenker, 2000) regardless of sociodemographic background (Kluegel & Smith, 1986; Smith & Stone, 1989). Thus, the present findings are consistent with prior research and illustrate the extent to which young adults in America adopt a belief system supporting the dominant meritocratic ideology of American society. However, the current studies provide important extensions to this prior research by assessing both participants' beliefs about themselves and about other people in society. Finally, the current study shows that despite mounting social and economic changes that could challenge individuals' adoption of merit-oriented beliefs, these beliefs retain a prominent position in young adults' conceptions of how SES is attained.

In addition to the roles that merit- and privilege/fatalistic-oriented beliefs hold in young adults' conceptions about SES attainment, the present research illustrates a third important causal belief system emphasizing the importance of social connections. When participants were given the additional option of a social connections route toward SES, they maintained that their own merit would determine their future SES, but believed that social connections (followed by merit) was the primary cause for why other people had attained their SES. This disconnect between the perceived importance of social connections for others versus oneself raises interesting avenues

for future research to explore. It may be that participants in our sample were simply too young to have established the social connections that they believe are responsible for SES attainment. If this is the case, it may signal a point of leverage for interventions designed to enable young adults to successfully navigate the transition out of school. More specifically, many young adults may not believe they have access to the social connections necessary to attain their career goals, or know how to establish and enact these connections. While this is something that many universities provide to some extent through career centers and internships, future research could examine this more closely in an effort to expand these resources and make them more effective. It may also be that this disconnect is motivationally beneficial. By allowing the attribution of failure to an external causal factor, individuals are able to protect themselves from feelings of incompetence, guilt and shame should they fail to reach their goals (Russell & McAuley, 1986; Weiner, Russell & Lerman, 1979). While the present studies do not allow a concrete answer to this question, additional longitudinal studies that follow participants until they reach stability in their careers may shed light on how and why this process unfolds.

While the general belief system endorsed by participants in the studies is consistent with the hypotheses, there are some sociodemographic differences observed in the descriptive and multilevel modeling results that warrant further exploration through longitudinal studies using larger and more diverse samples. The most consistent findings regarding ethnicity reveal that participants of Asian ethnicity tend to be the most likely participants to endorse luck-oriented personal agency beliefs, while participants of Latino/a ethnicity tend to be the most likely participants to endorse social connections-oriented societal beliefs. Both of these cultural backgrounds are generally collectivistic (Hofstede, 1984), indicating that individuals from these cultural backgrounds may be more likely to make causal attributions emphasizing the role of

external factors than individuals from more individualistic cultures (Markus & Kitayama, 2005). However, the current results may extend this research and theory on cultural background and attribution styles by suggesting that within collectivistic cultures, individuals from Asian ethnic backgrounds may be more apt to endorse luck-oriented beliefs while individuals from Latino/a ethnic backgrounds may be more likely to endorse social connections-oriented beliefs. While these findings are interesting, future research using much larger sample sizes is needed to fully explore the suggested attribution patterns observed in the current study.

Regarding gender, the results indicate that women are more likely to endorse luck-oriented personal agency beliefs, but men report steeper increases to their luck-oriented personal agency beliefs when struggling in their career and SES development. Furthermore, the results indicate that women tend to report steeper increases in their merit-oriented personal agency beliefs, especially when they are satisfied with their current progress toward attaining their career goals. Thus, it appears that in our sample men's belief systems may be more sensitive to failure, while women's belief systems may be more sensitive to success. Perhaps this finding is due in part to the systemic difficulties that women have traditionally faced in the labor market when compared to men (Blau & DeVaro, 2007; Blau & Kahn, 2000), which could make individuals more sensitive to patterns of career development that counter the stereotypical career trajectories of their given gender. Again, this is an interesting pattern of results that opens an avenue for future research to explore in greater depth.

Other observed sociodemographic differences observed include age, SES, and the unemployment rate associated with an individual’s choice of major. Regarding age, the results indicate that younger participants report higher luck-oriented personal agency beliefs, and steeper increases in these beliefs when they are unsatisfied with their career-goal progress. Here,

it may be that individuals who return to school at later stages in young adulthood are more motivationally focused, and as a result less inclined to believe that uncontrollable external factors (e.g., luck) are responsible for their goal attainment. Regarding SES, the results indicate that individuals with a higher family-of-origin SES tend to report stronger just world beliefs, and merit- and connections-oriented societal beliefs. These results are consistent with expectations, and suggest that an individual's family background provides a template for how they view the world around them. When raised in a high SES environment, individuals may be more likely to view the world as just as they themselves are less likely to have experienced the injustice pervading the lives of individuals from low SES environments. Additionally, individuals from high SES backgrounds can be expected to view the world as just and to believe that SES is attained through merit as a way to justify their families status and diminish the role that their own privilege may have played in their current position in life. Finally, social capital (in this case social connections) is inherently increased at higher levels of SES, and it is thus not surprising that individuals from higher SES family backgrounds are more likely to endorse social connections as instrumental to the attainment of SES.

Regarding personal experiences, the results indicate that individuals who are working at a job that they feel will help them attain their career goals and participants who have a higher present SES are more likely to believe that their social connections will enable them to attain SES. These findings are consistent with the human capital view of socioeconomic status attainment, wherein individuals' accumulation of goal-relevant social capital promotes their beliefs that they can control the attainment of their career goals (Jokisaari & Nurmi, 2005). The results also indicate that individuals whose university major has a high unemployment rate hold diminished beliefs that their effort and ability will enable them to attain social status. This

finding illustrates that individuals are sensitive to the broader labor market, and that they may respond to constrained employment opportunities by diminishing their beliefs that their own merit will be able to overcome these situational barriers.

Research Question 2. *How are young adults' beliefs about the fairness of the world related to their beliefs about how socioeconomic status is attained by other people in American society, and how are these beliefs subsequently related to the factors they identify as instrumental in their own socioeconomic status attainment?* According to the just world hypothesis (Lerner, 1975; Lerner & Miller, 1978), individuals are motivated to believe that the world is fair and just, as this belief encourages their commitment to long-term goal pursuits that have uncertain outcomes (Laurin, Fitzsimons & Kay, 2011). However, this theory and research does not provide a detailed outline regarding how just world beliefs are related to individuals long-term commitment to career goals, or provide detail as to why from a motivational perspective these beliefs are goal engagement promoting.

The dissertation addresses these limitations by illustrating how individuals' broader just world beliefs are filtered into more refined beliefs about socioeconomic status attainment, and in turn why these just world beliefs can be expected to promote career-related goal engagement. The results indicate that individuals who believe that the world is just are more likely to believe that individuals' attainment of SES is due to meritocratic factors. As merit is internal, a belief that goal attainment is contingent on merit signals to the individual that their actions are required. Thus, the dissertation provides some evidence for why just world beliefs may promote career-related goal engagement. However, contrary to expectations the results do not indicate that individuals who believe that the world is just diminish their beliefs that SES is attained through

unearned and uncontrollable factors (e.g., privilege and luck), which in turn would be expected to promote goal disengagement. This highlights the complexity of individuals' belief systems, wherein multiple causal factors are endorsed.

The dissertation also provides important extensions to control-theories, namely the means-ends-agency beliefs model developed by Skinner and colleagues (Skinner, Chapman & Baltes, 1988). Translating this model to the current research, individuals can be expected to hold beliefs about the means that enable the attainment of a given goal (e.g., societal beliefs in the current studies) and one's access to these means (e.g., personal agency beliefs in the current studies). As the means-ends-agency beliefs model was developed and applied to children's academic engagement, the dissertation extends this model by applying it to young adults' beliefs about SES and career-goal pursuit during the school-to-work transition.

Furthermore, the dissertation illustrates the complimentary nature of young adults' SES-related belief systems. Here, the results show strong support for individuals' adoption of personal agency beliefs that mirror their societal beliefs; merit with merit, connections with connections, and privilege/fate with luck. This coordination between beliefs about the available routes toward SES attainment and one's own access to these routes allows individuals to more fully commit their motivational resources toward goals when they have access to the means required to attain these goals. Thus, the complimentary belief systems observed in the present studies are motivationally beneficial, and serve as a way through which individuals can identify which goal pursuits are attainable and which goal pursuits require their investment of motivational resources. The complimentary mirroring observed in participants' belief systems is a robust finding that is not moderated by participants' sociodemographic characteristics.

Research Question 3. *How do young adults' beliefs about socioeconomic status attainment relate to their engagement with career-related goals?* Consistent with prior motivational theory and research (Heckhausen & Gollwitzer, 1987; Heckhausen, Wrosch, & Schulz, 2010; Skinner, Zimmer-Gembeck, Connell, Eccles, & Wellborn, 1998; Weiner, 1985), the results indicate that individuals who believe they can directly control the attainment of their future social status are more inclined to direct their motivational resources toward the attainment of their career goals. In contrast, individuals who believe their future social status is beyond their direct control are more likely to withdraw their motivational resources away from career goal pursuits. Collectively, these results indicate the adaptive nature of young adults' motivational system, wherein opportunity-congruent motivational strategies are adopted. These findings complement existing motivational theory regarding why individuals choose to pursue a goal and decide when to disengage from a goal pursuit (Heckhausen, Wrosch & Shulz, 2010).

The dissertation builds on motivational theory by illustrating pathways through which individuals' perceived control becomes translated into career-related motivational strategies. More specifically, consistent with earlier research in our program (Shane & Heckhausen, 2013), the results reveal a predominately goal engagement-promoting pathway and a predominately goal disengagement-promoting pathway. However, the dissertation extends these pathways by illustrating how broader beliefs about society are channeled through complimentary beliefs about one's own agency that in turn are associated with the adoption of opportunity-congruent motivational strategies. Specifically, the results reveal a goal engagement-promoting pathway, wherein individuals who believe that SES is attained in America through merit are more inclined to believe that they themselves have the requisite merit to attain SES. This belief system signals that individuals' SES attainment is directly controllable and contingent on their actions, in turn

promoting individuals' engagement toward the pursuit of their career-related goals. In contrast, the goal disengagement-promoting pathway shows that individuals who believe that SES is allocated in America through privilege and fate are more likely to believe that their luck will cause their future socioeconomic status attainment. This belief system conveys to individuals that they lack direct control over their SES and that their action is not required, in turn indicating to that they should channel their motivational resources away from their career-related goals.

In addition to these two pathways discussed above, the dissertation introduces a third pathway consisting of a belief system revolving around social connections as a driving force behind socioeconomic status attainment. In line with previous research in our program (Shane, Heckhausen, Lessard, Chen & Greenberger, 2012), this connections-oriented pathway is generally goal engagement promoting. However, the social connections belief system forms a middle ground between the more extreme uncontrollable (luck/privilege) and controllable (merit) pathways discussed previously. On one hand, social connections represent something outside of an individual's direct control (Skinner, Zimmer-Gembeck, Connell, Eccles & Wellborn, 1998). On the other hand, social connections can be developed through one's own effort (e.g., social networking) and ability (e.g., social skills). In line with these possible viewpoints, the results reveal a complicated relationship between individuals' social connections-oriented beliefs and their merit- and luck-oriented belief systems. Individuals who endorse connections-oriented societal beliefs are also likely to believe that their effort and ability will enable them to attain social status, but that their luck will not play a role. Additionally, when entered individually, merit- and privilege-oriented societal beliefs are positively associated with individuals' beliefs that their social connections will enable them to attain social status. Thus, consistent with prior theory and research (Shane, Heckhausen, Lessard, Chen & Greenberger, 2012; Skinner, Zimmer-

Gembeck, Connell, Eccles & Wellborn, 1998), the results suggest that individuals' social connections-oriented beliefs become goal engagement-promoting when individuals believe they can exert control over the establishment and utilization of social connections.

The dissertation also builds upon motivational theory and prior research by illustrating relationships between participants' SES-related belief systems and specific motivational strategies. As shown in Figure 19 below, participants who endorse merit-oriented beliefs are more likely to selectively invest their motivational resources toward attaining their career goals (selective primary control strivings and selective secondary control strivings). In addition, these participants are also more likely to compensate for setbacks in, or constraints to their career goal pursuit by asking for help and finding alternate means to attain their career goals (compensatory primary control strivings), or redirect their motivational resources toward more attainable goal pursuits (compensatory secondary control-reengagement strivings). Individuals who endorse social connections-oriented beliefs are also generally engaged with their career goals, particularly through the use of primary control strategies (selective primary control strivings and compensatory primary control strivings). In contrast to these engagement-promoting belief systems, participants who endorse privilege/fatalistic-oriented beliefs compensate for this perceived lack of control by disengaging altogether from their career goal pursuits (compensatory secondary control-disengagement strivings), and redirecting their motivational resources toward more attainable goals (compensatory secondary control-reengagement strivings).

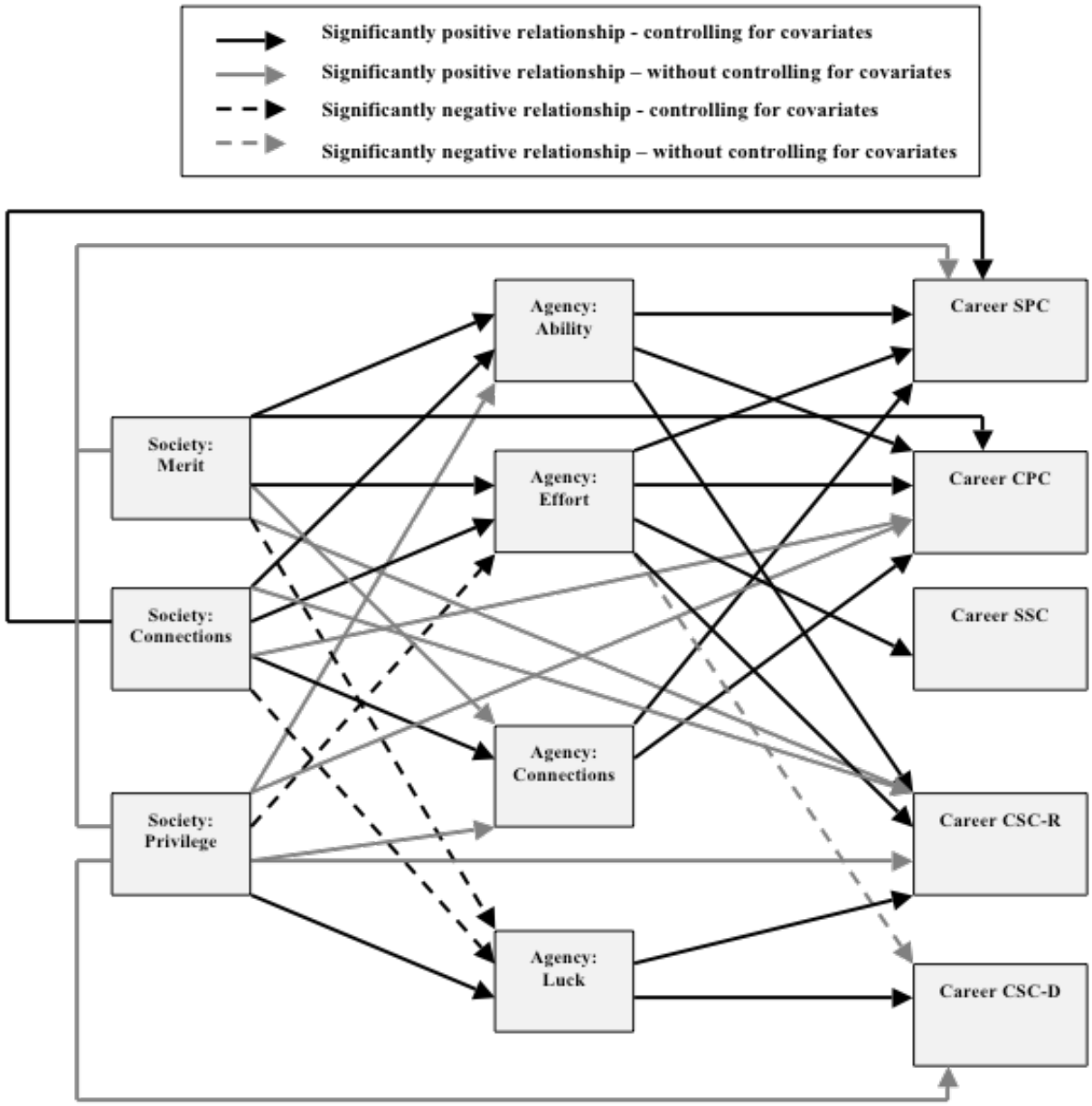

Figure 19. Study 2 results depicting the observed relationships between participants' SES-related beliefs and their career-related motivational strategies.

Further support for these coordinated belief-motivation systems comes from the observed associations between personal agency beliefs and changes in motivational strategies over time. More specifically, the results indicate both an alignment and reinforcement of belief systems with complimentary motivational strategies. For example, a luck-oriented belief system indicates

to individuals that their goal attainment is outside of their direct control, and thus, their direct investment of motivational resources will not enact an effect. Under this situation, we can expect that individuals will disengage from the goal, and redirect their motivational resources toward a goal that they believe requires their motivational investment to attain. The results support this, as individuals who endorse a privilege/luck-oriented belief system are more likely to employ compensatory secondary control strategies, and report steeper increases in these career-related goal disengagement strategies over time.

On the other hand, a merit-oriented belief system indicates to individuals that their goal attainment is within their direct control, and thus, contingent upon their investment of motivational resources. In this situation, we can expect that individuals will engage with this opportunity-congruent goal. Again, the results support this, as individuals who endorse a merit-oriented belief system are more likely to engage with their career-related goals, and report steeper increases in these goal engagement strategies over time.

Finally, a social connections-oriented belief system indicates to individuals that they need help from others in order to attain their goals. In this situation, we can expect individuals to use compensatory primary control strategies, in particular, seeking help from others. Thus, this belief system should promote goal attainment when individuals access their social connections, and inhibits goal engagement when individuals do not have access to this outside help. Again, the results support this, as individuals who endorse a social connections-oriented belief system are more likely to employ compensatory primary control strategies, and report steeper increases in this aspect of career-related goal engagement over time.

Interesting ecological constraints and personal experiences also play a role in individuals' motivational strategies. In particular, individuals who graduate with a major associated with a

high unemployment rate are less likely to employ career-related selective primary control strategies, and more likely to use career-related compensatory secondary control strategies. These results extend previous research that finds a relationship between individuals' college major and their placement on, as well as movement along, the social status "ladder" (Wolniak, Seifert, Reed & Pascarella, 2008), by illustrating the motivational strategies individuals adopt depending on the employment prospects that their degree provides. Regarding personal experiences, the results indicate that individuals who are working at a job that they feel will help them attain their career goals are more likely to engage with the pursuit of their career goals. Similar to the relationships described previously between employment characteristics and belief systems, this finding indicates that individuals become more engaged with their career-related goals as they acquire goal-relevant social capital (Jokisaari & Nurmi, 2005).

The results also reveal some sociodemographic differences in participants' career-related motivational strategies. Most notably, older participants are more likely to be highly engaged with the pursuit of their career goals, and individuals from higher family-of-origin SES backgrounds are more likely to disengage from their career goals. These final two findings can be expected, as older university graduates most likely returned to university after a prolonged absence in order to pursue a particular career goal, while individuals from higher family-of-origin SES backgrounds have less pressure on their personal agency to attain career goals. The lack of other consistent sociodemographic differences indicates that the observed associations between belief systems and motivational strategies are relatively robust.

Research Question 4. *How are young adults' career-related motivational strategies related to career development?* Consistent with prior theory and research (Converse, Pathak, DePaul-Haddock, Gotlib & Merbedone, 2012; Haase, Heckhausen & Köller, 2008; Shane & Heckhausen, 2012) the results indicate that individuals can enact control over their career development through the selective channeling of their motivational resources. In line with expectations, individuals' career-related goal engagement strategies are positively associated with the value they place on their career goals, and indicators of their progress toward attaining these goals. In contrast, individuals' career-related goal disengagement strategies are generally associated with the devaluing of career goal pursuits, and a lack of progress in career goal attainment.

Beginning with career-related goal engagement strategies, Study 1 finds positive relationships between individuals' career-related goal engagement strategies and the value they place on attaining their career goals, their expectancy of eventually attaining these career goals, and their satisfaction with their progress toward attaining their career goals. Study 2 uses a more differentiated view of career-related motivational strategies, allowing for an assessment of associations between indicators of career progress and specific types of career-related goal engagement strategies (selective primary control, selective secondary control, and compensatory primary control). When these motivational strategies are entered as single predictors of career development the results are consistent with Study 1; indicating that individuals' adoption of career-related goal engagement strategies is positively associated with the value they place on attaining their career goals, the expectancy that they will attain these career goals, the control they perceive having over attaining these career goals, and their satisfaction with their progress toward attaining their career goals.

However, the results from Study 2 extend Study 1 by illustrating that when these career-related motivational strategies are entered simultaneously, they have differential associations with career development. In particular, the results indicate that selective primary control strategies are positively associated with individuals' expectancy that they will attain their career goals, and their satisfaction with their progress toward attaining these career goals. Similarly, compensatory primary control strategies are positively associated with individuals' satisfaction with their progress toward attaining their career goals. Primary control strategies are aimed at controlling the external environment to facilitate goal attainment (Heckhausen & Schulz, 1995; Heckhausen, Wrosch & Schulz, 2010), thus it is not surprising that they show strong associations with indicators of career goal progress. Selective secondary control strategies are positively associated with individuals' career-goal expectancy, and the value that individuals place on their career goals. These strategies are aimed at controlling the internal environment to facilitate goal attainment, including enhancing the perceived value of the goal in order to sustain motivational strivings over extended periods of time (Heckhausen & Schulz, 1995; Heckhausen, Wrosch & Schulz, 2010). Thus, there is some overlap between goal engagement-related motivational strategies, but their unique associations with indicators of career progress compliment motivational theory and illustrate that individuals' deployment of career-related goal engagement strategies allows them to actively and positively influence their career development.

In line with compensatory motivational theory (Baltes, 1987; Baltes, 1997; Heckhausen, Wrosch & Schulz, 2010), the results from Study 1 indicate that individuals' career-related goal disengagement strategies are associated with a devaluing of their career goals. However, these disengagement strategies are not associated with diminished career-goal expectancy or satisfaction with progress. The results from Study 2 indicate that compensatory secondary

control disengagement and reengagement strategies are both inconsistently endorsed by individuals' diminished expectancy of attaining their career goals. Collectively, these results indicate that individuals' adoption of compensatory secondary control strategies decreases the expectancy that they will attain their career goals, and the value they place on attaining these career goals. Individuals' use of compensatory secondary control strategies can be adaptive (Wrosch, Scheier, Carver & Schulz, 2003). In particular, individuals' devaluing of a goal serves a self-protective benefit by shielding themselves and their motivational resources from the adverse effects of disengaging from a developmentally important goal, or continuing to pursue an unattainable goal.

Consistent with prior research in our program (Shane, Heckhausen, Lessard, Chen & Greenberger, 2012), the results indicate that an individual's belief systems are translated into career development through her or his implementation of motivational strategies. However, the current findings extend this prior research by incorporating individuals' societal-beliefs into the models, assessing SES-related personal agency beliefs, and in Study 2 through the inclusion of a more differentiated view of motivational strategies in line with the motivational theory of life-span development (Heckhausen, Wrosch & Schulz, 2010). Regarding personal agency beliefs, the results indicate that individuals who believe that their own merit and/or social connections with allow them to attain social status, place more value on attaining their career goals, perceive more control over attaining these career goals, are more likely to expect to attain these goals, and are more satisfied with their progress toward attaining these goals. Regarding societal beliefs, the results indicate that individuals who believe that social status is attained in America through merit, place increased value on their career goals and are more likely to expect to attain these career goals. Conversely, individuals who believe that social status is attained through privilege

and fate are more likely to devalue their career goals. The results further indicate that these relationships between belief systems and career development are at least partially mediated by the inclusion of other covariates in the models, most notably career-related motivational strategies. This suggests that an individual's causal belief systems are translated into career development through her or his motivational strategies.

While the pattern of results is generally robust, the results indicate that personal experiences and sociodemographic characteristics play some role in individuals' career development. Regarding personal experiences, individuals who are working in a job that they feel helps them to attain their career goals believe that they have more control over attaining their career goals, are more likely to expect to attain these career goals, and are more satisfied with their progress toward attaining these goals. Again, these results are consistent with prior research (Jokisaari & Nurmi, 2005), and indicate that directly applicable personal experiences are both positive indicators of individuals' career development, and facilitators of control over attaining future career-related goals. Somewhat surprisingly, individuals who are making more money at their current job report being less satisfied with their current progress toward their career goals, are less expectant that they will attain these goals, devalue their career goals, and believe they have less control over attaining their career goals. These findings may be explained by considering that the results are observed when holding the other covariates in the models at their mean levels. This means that these findings exist when participants are working at a job that they do not feel is really helping them to attain their career goals. Thus, making more money, but doing so at a job that is not helpful for career goal progress is adversely associated with individuals' career development.

Regarding sociodemographic characteristics, individuals of Asian ethnicity are less satisfied with their career goal progress than participants of White ethnicity. In addition, women believe they have less control over attaining their career goals, and older participants believe they have more control over attaining these career goals. Similar to the sociodemographic differences observed in participants' belief systems, further research with a larger and more diverse sample is needed to see if these effects are replicable, and if so, why these differences exist.

Research Question 5. *How does an individual's career development influence her/his subsequent beliefs about socioeconomic status attainment?* Although prior survey research finds that individuals of higher SES more likely to endorse meritocratic-related beliefs in American society (JWT, 2010; Taylor, Parker, Morin & Motel, 2012), the present studies extend and refine these findings by assessing multiple belief systems and showing the process through which this belief-system transformation takes place over the university to post-university transition. In particular, the studies indicate that individuals' successful career and SES development is associated with increases over time in their endorsement of engagement-promoting belief systems. Conversely, individuals' who struggle in their career and SES development are more apt to increase their endorsement of disengagement-promoting belief systems. Thus, the results find that individuals' generally strive to maintain congruency between their degree of success in pursuing career goals and their beliefs that they have direct control over attaining these goal pursuits. This coordinated system allows individuals to adaptively channel their motivational resources toward opportunity-congruent goal pursuits, and allows them to disengage from

opportunity-incongruent goal pursuits in a self-protecting way whereby they shift the cause of their struggles to factors outside of their direct control.

Beginning with successful career development, the results indicate that individuals experiencing positive career development are more apt to increase their beliefs that they can directly control their future social status. In particular, the results from Study 2 indicate that individuals who expect to attain their career goals report increases over time in their beliefs that their ability and effort will allow them to attain their future social status. Similarly, individuals' who believe they can control the attainment of their career goals report increases over time in their beliefs that their ability will allow them to attain their future social status, and that social status is attained in America through merit. Regarding individuals' present SES, the results indicate that individuals with higher present SES report steeper increases over time in their beliefs that social status is attained in America through merit and social connections. Finally, the results also indicate that individuals who are working at a job that they feel helps them to attain their career goals report steeper increases over time in their beliefs that their ability and effort will allow them to attain their future social status.

Turning to setbacks in career pursuit, the results from Study 1 indicate that individuals who are less satisfied with the progress they have made toward attaining their career goals report increases over time in their beliefs that individuals attain social status in America through privilege and fate. Similarly, individuals with a lower present SES report increases over time that their future socioeconomic status attainment is dependent upon their luck.

These results collectively suggest that individuals who experience positive career and SES development increase their subsequent endorsement of goal engagement-promoting societal and personal agency beliefs, whereas individuals who experience setbacks and struggles in their

career and SES development increase their subsequent endorse of goal disengagement-promoting societal and personal agency beliefs. However, the present studies do not address issues of causality and are limited in their sample size and the length of time the participants are tracked. Additionally, as discussed previously when outlining sociodemographic differences in participants' belief systems, the results indicate that the observed feedback loops may be more or less prominent for individuals with different sociodemographic characteristics. Thus, while the present studies provide some support for the hypothesized relationships between the degree of participants' career-goal progress and their subsequent beliefs about SES attainment, future research is needed to truly understand how individuals' belief systems develop in response to successes or setbacks in goal pursuit.

Limitations

While the dissertation studies have many strengths, they also contain limitations that should be addressed by future research. Study 1 is most limited by a small sample size and participant attrition. Indeed, the fifth wave of the study had so few participants that it was dropped altogether from the analyses, and the sixth wave of data collection was canceled after seeing how few participants were left in the study. Furthermore, inconsistent measures resulted in items being dropped from the scales, most notably including the third wave measure of luck-oriented personal agency beliefs. In addition, measures related to individuals' university experience (e.g., GPA and major) were not collected. Additionally, the participants in Study 1 are predominately female and of Asian ethnicity, limiting the generalizabiliy of the study findings. Finally, the analyses performed do not address issues of endogeneity, meaning that there is no statistical evidence of causality. Future research using an experimental design, or

perhaps a different analytic technique, may help to disentangle the observed relationships into causal pathways of influence. Despite these limitations, Study 1 did provide insight into the research questions, strong support for the hypotheses, and paved the way for the more detailed Study 2 that followed.

Study 2, however, also has its limitations. Most notably, missing data on participants' major and GPA restrained the analyzed sample when these variables were entered into the multilevel models. Also, due to the time constraints associated with completing the survey, the streamlined measures used in the study may have shown stronger and more consistent associations had more items per measure been included. Similar to, albeit not as extreme as Study 1, the majority of participants in Study 2 are female and of Asian ethnicity. This again limits the generalizability of the study findings, and calls for additional research using larger and more diverse samples to assess the robustness of the study findings. In addition, participants reported little change in many of the dependent variables, thus limiting the variance that could be accounted for in the growth curve models. Increasing the number of assessments, and spreading these assessments across larger time intervals could have strengthened Study 2. Finally, similar to Study 1, the analyses used in Study 2 do not address issues of causality. Again, future research that explicitly examines causality is warranted in order to fully examine the hypothesized pathways linking participants' belief systems with their motivational strategies and career development.

Future Directions

The results collectively provide strong support for the hypotheses, and pave the way for future studies to further test and expand the theoretical model developed through the dissertation research (Figure 2 / 23). Future research using more items per measure, more assessments spread across longer time intervals, and larger samples of young adults from different backgrounds would go a long way in addressing the dissertation's limitations. Additionally, as the studies are focused on American society, future research in different cultures with different societal structures would help to develop a more robust model illustrating the relationship between young adults' societal beliefs and motivational strategies.

Other research looking at children, adolescents, and adults is also warranted as a way to understand how individuals' belief-motivation system develops across the lifespan. Also, due to the overlap between individuals' motivational and emotional systems, future research should incorporate measures of emotion to provide a more encompassing theoretical model of young adults' career development. Future research using experimental designs or different analytic techniques that address issues of endogeneity are also warranted in order to examine the directions of influence between belief systems, motivational strategies, and career development, and in so doing support causal claims. Finally, the studies are focused on career goal pursuit, and it remains to be seen if similar relationships between belief systems, motivational strategies, and goal progress would be observed for other important goals pursuits. Thus, while the dissertation provides strong support for the study hypotheses and provides a working model for the relationships between individuals' broader belief systems, their motivational strategies, and goal progress, future research is needed to replicate, extend, and refine our understanding of how these processes play out for individuals as they develop across their lifespan.

Conclusion

Social and economic factors have constrained developmental pathways through young adulthood, while at the same time creating more flexibility for individuals to direct their own development through their choice and pursuit of goals (Shanahan, 2000). In addition, the transition to adulthood has become extended, more complex, and more ambiguous (Furstenberg, Rumbaut & Settersten, 2005; Shanahan, Porfeli, Mortimer & Erickson, 2005; Settersten, 2005). Particularly in the United States, the education system and expectations that success is earned through post-high school educational qualifications keeps most individuals enrolled in school through adolescence and into young adulthood. However, the United States does not have the formal ties between school and work as many other societies do. This means that many young adults in America may view the path through university as necessary for the attainment of their career goals, but a university degree is not in itself sufficient for individuals to attain their career goals. Thus, university students' transition from the structured educational system into the unstructured employment system is uncertain but potentially successful, creating increased pressure on individuals' agency in order to attain their career goals.

How this transition between school and work, and accordingly for many individuals the transition into adulthood, is managed remains a topic of interest for developmental psychology. The present study sheds some light on this topic by examining how young adults undergoing the post-university transition view the world around them, their beliefs about their own agency, their motivational commitment to career goals, and their subjective progress in attaining these goals. By examining the processes revolving around young adult agency in a changing developmental ecology, the dissertation increases our understanding of these processes through the construction of a theoretically grounded and empirically validated model. This model emphasizes the adaptive

congruency of individuals' beliefs, motivational strategies, and career-related development. This coordinated beliefs-motivation system in turn allows young adults' to adaptively engage with the pursuit of opportunity-congruent career goals and disengage when these goals appear unattainable. In so doing, this beliefs-motivation system provides the agentic pathways through which individuals navigate the transition to adulthood and realize their American dream.

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Appendix A

Results of reverse direction multilevel modeling analyses for Study 1 and Study 2, where participants' career-related control strategies are used as predictors of their personal agency beliefs.

Study 1 multilevel model results with participants' career-related control strivings as predictors of their merit-oriented personal agency beliefs.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects: Intercept						
Intercept	4.88 (.05)*	Varies	5.08 (.11)*	4.89 (.05)	Varies	5.06 (.11)*
Slope				-.05 (.02)*	Varies	-.01 (.06)
Career Goal Engagement [a]		.68 (.06)*	.54 (.06)*		.69 (.06)*	.54 (.06)*
Career Goal Disengagement [a]		-.03 (.04)	.02 (.03)		-.03 (.04)	.01 (.03)
Societal Beliefs: Merit [a]		.34 (.04)*	.32 (.04)*		.34 (.04)*	.21 (.04)*
Societal Beliefs: Privilege [a]		-.01 (.04)	-.00 (.03)		-.01 (.04)	-.01 (.03)
Just World Beliefs [a]		.10 (.03)*	.05 (.03)		.11 (.03)*	.05 (.03)*
Family-of-origin SES [a]		.02 (.02)	.00 (.02)		.02 (.02)	.00 (.02)
Female		-.08 (.11)	-.08 (.07)		-.07 (.11)	-.02 (.08)
Age [a]		.02 (.02)	.00 (.01)		.03 (.02)	.00 (.01)
Ethnicity (White reference group)						
Latino/a		-.07 (.17)	-.34 (.15)*		-.05 (.18)	-.35 (.15)*
Asian		-.44 (.15)*	-.46 (.13)*		-.43 (.15)*	-.46 (.13)*
Mixed / Other		-.03 (.16)	-.17 (.13)		-.02 (.16)	-.02 (.07)
Generational Status (3rd + generation reference group)						
1st generation		-.21 (.16)	.21 (.12)		-.20 (.16)	.18 (.12)
2nd generation		-.07 (.13)	.11 (.11)		-.04 (.14)	.11 (.11)
Parents did not attend University		.28 (.10)*	.19 (.08)*		.32 (.11)*	.22 (.08)*
Fixed Effects: Slope						
Career Goal Engagement [a]					-.02 (.04)	.03 (.04)
Career Goal Disengagement [a]					.02 (.02)	.02 (.02)

Societal Beliefs: Merit [a]					.02 (.02)	.04 (.03)
Societal Beliefs: Privilege [a]					-.01 (.02)	.00 (.02)
Just World Beliefs [a]					-.01 (.02)	-.02 (.02)
Family-of-origin SES [a]					.02 (.01)	.01 (.01)
Female					-.04 (.05)	-.02 (.05)
Age [a]					-.01 (.01)	-.01 (.01)
Ethnicity (White reference group)						
Latino/a					-.04 (.09)	.11 (.09)
Asian					.05 (.07)	.12 (.08)
Mixed / Other					-.03 (.08)	.04 (.08)
Generational Status (3rd + generation reference group)						
1st generation					.03 (.07)	.06 (.08)
2nd generation					-.05 (.06)	-.02 (.06)
Parents did not attend University					-.08 (.05)	-.01 (.04)
Random Effects						
Variance Slope				.01 (.01)	Varies	.00 #
Between-person variance	.24 (.04)	Varies	.06 (.02)	.24 (.04)	Varies	.06 #
Within-person variance	.25 (.02)	Varies	.20 (.02)	.23 (.02)	Varies	.19 #
Model Fit Statistics						
Deviance	737.06	Varies	561.74	731.40	Varies	548.17
AIC	743.06	Varies	595.74	741.40	Varies	608.17
BIC	754.93	Varies	663.03	761.19	Varies	726.92
Participants	140	140	140	140	140	140
Observations	387	Varies	387	387	Varies	387

Notes: [a] Grand-mean centered; * $p < .05$. # Unable to calculate standard errors. Predictors entered individually in Models 2 and 5.

Study 1 multilevel model results with participants' career-related control strivings as predictors of their luck-oriented personal agency beliefs.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects: Intercept						
Intercept	3.20 (.08)*	Varies	3.01 (.23)*	3.23 (.09)*	Varies	3.12 (.24)*
Slope				.18 (.05)*	Varies	.30 (.13)*
Career Goal Engagement [a]		-.34 (.14)*	-.13 (.14)		-.28 (.14)*	-.13 (.14)
Career Goal Disengagement [a]		.41 (.08)*	.28 (.07)*		.37 (.08)*	.28 (.07)*
Societal Beliefs: Merit [a]		-.08 (.09)	-.03 (.09)		-.02 (.09)	.03 (.09)
Societal Beliefs: Privilege [a]		.37 (.07)*	.28 (.07)*		.33 (.07)*	.24 (.06)*
Just World Beliefs [a]		.23 (.06)*	.23 (.06)*		.22 (.06)*	.20 (.05)*
Family-of-origin SES [a]		-.04 (.04)	-.04 (.04)		-.01 (.04)	-.04 (.04)
Female		-.26 (.18)	-.28 (.15)		-.28 (.19)	-.30 (.16)
Age [a]		-.03 (.03)	-.04 (.03)		-.04 (.03)	-.06 (.03)*
Ethnicity (White reference group)						
Latino/a		.13 (.30)	.01 (.31)		.08 (.31)	.01 (.32)
Asian		.70 (.25)*	.17 (.27)		.62 (.26)*	.12 (.29)
Mixed / Other		.25 (.28)	.03 (.27)		.15 (.29)	-.11 (.28)
Generational Status (3rd + generation reference group)						
1st generation		.77 (.25)*	.59 (.25)*		.75 (.26)*	.66 (.27)*
2nd generation		.28 (.22)	.33 (.23)		.21 (.22)	.27 (.25)
Parents did not attend University		-.09 (.18)	-.10 (.16)		-.17 (.18)	-.19 (.17)
Fixed Effects: Slope						
Career Goal Engagement [a]					.01 (.08)	-.01 (.08)
Career Goal Disengagement [a]					.10 (.04)*	.11 (.04)*
Societal Beliefs: Merit [a]					-.02 (.06)	.00 (.06)
Societal Beliefs: Privilege [a]					.05 (.04)	-.00 (.04)
Just World Beliefs [a]					-.03 (.04)	-.00 (.04)
Family-of-origin SES [a]					.02 (.02)	.01 (.02)
Female					.10 (.11)	.21 (.10)*
Age [a]					.00 (.02)	.02 (.02)
Ethnicity (White reference group)						
Latino/a					-.25 (.17)	-.30 (.18)
Asian					-.22 (.15)	-.21 (.15)
Mixed / Other					-.20 (.16)	-.25 (.15)

Generational Status (3rd + generation reference group)						
1st generation					-.19 (.14)	-.19 (.15)
2nd generation					-.15 (.12)	-.14 (.13)
Parents did not attend University					-.01 (.10)	.13 (.09)
Random Effects						
Variance Slope				.06 (.03)	Varies	.01 (.01)
Between-person variance	.46 (.13)	Varies	.17 (.09)	.61 (.14)	Varies	.30 (.09)
Within-person variance	.99 (.11)	Varies	.89 (.09)	.71 (.11)	Varies	.68 (.08)
Model Fit Statistics						
Deviance	950.61	Varies	870.86	929.61	Varies	836.62
AIC	956.61	Varies	904.86	941.61	Varies	904.62
BIC	967.75	Varies	967.99	963.89	Varies	1030.89
Participants	140	140	140	140	140	140
Observations	303	Varies	303	303	Varies	303

Notes: [a] Grand-mean centered; * $p < .05$. Predictors entered individually in Models 2 and 5.

Study 2 multilevel model results with participants' career-related control strivings as predictors of their ability-oriented personal agency beliefs.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	4.78 (.04)*	Varies	4.80 (.08)*	4.77 (.05)*	Varies	5.07 (.57)*
Slope				.00 (.02)	Varies	-.09 (.24)
Career SPC [a]		.41 (.03)*	.23 (.04)*		.46 (.04)*	.23 (.07)*
Career CPC [a]		.30 (.03)*	.10 (.04)*		.33 (.04)*	.17 (.06)*
Career SSC [a]		.19 (.02)*	.03 (.03)		.18 (.03)*	.02 (.04)
Career CSC-Disengage [a]		-.02 (.02)	-.03 (.02)		-.07 (.03)*	-.05 (.03)
Career CSC-Redirection [a]		.10 (.02)*	.06 (.03)*		.05 (.03)	.05 (.04)
Societal Beliefs: Merit [a]		.28 (.03)*	.19 (.03)*		.25 (.04)*	.15 (.05)*
Societal Beliefs: Privilege [a]		.09 (.03)*	-.02 (.04)		.13 (.04)*	-.00 (.05)
Societal Beliefs: Connections [a]		.18 (.03)*	.05 (.04)		.21 (.04)*	.12 (.06)*
Just World Beliefs [a]		.05 (.02)*	.03 (.02)		.04 (.03)	.04 (.03)
Present SES [a]		.05 (.01)*	.02 (.02)		.03 (.02)	.05 (.02)*
Family-of-origin SES [a]		.01 (.01)	-.00 (.01)		-.00 (.02)	-.01 (.02)
Female		-.00 (.08)	.06 (.07)		-.10 (.09)	-.10 (.08)
Age [a]		.03 (.02)	.00 (.02)		.03 (.02)	-.01 (.02)
Ethnicity (White reference group)						
Asian		-.19 (.10)	-.15 (.08)		-.14 (.11)	-.11 (.11)
Latino/a		.14 (.14)	.07 (.11)		.27 (.15)	.19 (.14)
Mixed / Other		.01 (.12)	-.06 (.09)		.09 (.13)	.07 (.12)
Attending graduate school		.03 (.07)	.04 (.07)		.11 (.14)	.15 (.14)
Undergraduate GPA		.06 (.09)	.05 (.07)		.08 (.11)	.06 (.09)
Major: Unemployment Rate [a]		-.06 (.03)	-.04 (.03)		-.07 (.04)	-.06 (.04)
Major: Income [a]		.00 (.00)	-.00 (.00)		.00 (.00)	-.00 (.00)
Work: Income [a]		.02 (.01)	.01 (.02)		.01 (.02)	-.01 (.02)
Work helps career goals [a]		.05 (.02)*	.02 (.02)		.02 (.03)	-.02 (.04)
Fixed Effects - Slope						
Career SPC [a]					-.04 (.02)	-.01 (.03)
Career CPC [a]					-.02 (.02)	-.04 (.03)
Career SSC [a]					.01 (.02)	.01 (.02)
Career CSC-Disengage [a]					.04 (.01)*	.01 (.02)
Career CSC-Redirection [a]					.03 (.02)	.01 (.02)

Societal Beliefs: Merit [a]					.02 (.02)	.03 (.02)
Societal Beliefs: Privilege [a]					-.03 (.02)	-.00 (.03)
Societal Beliefs: Connections [a]					-.03 (.02)	-.04 (.03)
Just World Beliefs [a]					.01 (.01)	-.00 (.02)
Present SES [a]					.01 (.01)	-.02 (.01)
Family-of-origin SES [a]					.01 (.01)	.01 (.01)
Female					.08 (.03)*	.11 (.03)*
Age [a]					-.00 (.01)	-.00 (.01)
Ethnicity (White reference group)						
Asian					-.04 (.04)	-.03 (.04)
Latino/a					-.10 (.06)	-.08 (.06)
Mixed / Other					-.06 (.05)	-.09 (.05)
Attending graduate school					-.05 (.06)	-.05 (.06)
Undergraduate GPA					-.01 (.04)	-.01 (.04)
Major: Unemployment Rate [a]					.01 (.01)	.01 (.02)
Major: Income [a]					-.00 (.00)	.00 (.00)
Work: Income [a]					.01 (.01)	.01 (.01)
Work helps career goals [a]					.03 (.01)*	.02 (.02)
Random Effects						
Variance Slope				.01 (.01)	Varies	.00 (.01)
Between-person variance	.30 (.04)	Varies	.12 (.02)	.32 (.05)	Varies	.14 (.03)
Within-person variance	.23 (.01)	Varies	.22 (.01)	.21 (.02)	Varies	.19 (.01)
Model Fit Statistics						
Deviance	1399.11	Varies	1208.77	1394.73	Varies	1173.48
AIC	1405.11	Varies	1258.77	1406.73	Varies	1273.48
BIC	1418.99	Varies	1374.41	1434.49	Varies	1504.75
Number of Participants	211	Varies	211	211	Varies	211
Observations	755	Varies	754	755	Varies	754

Notes: [a] Grand-mean centered; * $p < .05$. Predictors entered individually in Models 2 and 5.

Study 2 multilevel model results with participants' career-related control strivings as predictors of their effort-oriented personal agency beliefs.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	4.99 (.05)*	Varies	4.99 (.08)*	5.02 (.05)*	Varies	5.27 (.58)*
Slope				-.03 (.02)	Varies	-.10 (.24)
Career SPC [a]		.46 (.03)*	.30 (.04)*		.52 (.04)*	.35 (.07)*
Career CPC [a]		.33 (.03)*	.07 (.04)		.32 (.04)*	.05 (.06)
Career SSC [a]		.20 (.03)*	.05 (.03)		.18 (.03)*	.03 (.02)
Career CSC-Disengage [a]		-.03 (.02)	-.04 (.02)		-.08 (.03)*	-.07 (.03)*
Career CSC-Redirection [a]		.12 (.02)*	.07 (.03)*		.10 (.03)*	.12 (.04)*
Societal Beliefs: Merit [a]		.36 (.03)*	.25 (.04)*		.32 (.04)*	.19 (.05)*
Societal Beliefs: Privilege [a]		.02 (.03)	-.11 (.04)*		.07 (.04)	-.08 (.05)
Societal Beliefs: Connections [a]		.17 (.03)*	.06 (.04)		.23 (.04)*	.10 (.06)
Just World Beliefs [a]		.04 (.02)	.02 (.02)		.00 (.03)	.03 (.03)
Present SES [a]		.03 (.02)	.01 (.02)		.00 (.02)	.01 (.02)
Family-of-origin SES [a]		.00 (.01)	-.01 (.02)		-.01 (.02)	-.01 (.02)
Female		.05 (.08)	.03 (.07)		.07 (.09)	-.03 (.08)
Age [a]		.01 (.02)	-.02 (.02)		.03 (.02)	-.01 (.02)
Ethnicity (White reference group)						
Asian		-.13 (.10)	-.08 (.09)		-.15 (.12)	-.09 (.11)
Latino/a		.09 (.14)	-.01 (.12)		.22 (.16)	.07 (.15)
Mixed / Other		.07 (.12)	-.01 (.10)		.15 (.13)	.16 (.12)
Attending graduate school		-.03 (.08)	.04 (.07)		.06 (.14)	.14 (.14)
Undergraduate GPA		.15 (.10)	.12 (.07)		.18 (.11)	.13 (.09)
Major: Unemployment Rate [a]		-.04 (.04)	-.04 (.03)		-.03 (.04)	-.04 (.04)
Major: Income [a]		-.00 (.00)	-.01 (.00)		-.01 (.01)	-.01 (.01)
Work: Income [a]		-.01 (.01)	-.02 (.02)		-.01 (.02)	-.02 (.03)
Work helps career goals [a]		.02 (.02)	.02 (.02)		-.02 (.03)	-.02 (.04)
Fixed Effects - Slope						
Career SPC [a]					-.04 (.02)	-.04 (.04)
Career CPC [a]					.00 (.02)	.02 (.03)
Career SSC [a]					.02 (.02)	.02 (.02)
Career CSC-Disengage [a]					.04 (.01)*	.03 (.02)
Career CSC-Redirection [a]					.01 (.02)	-.04 (.02)

Societal Beliefs: Merit [a]					.03 (.02)	.05 (.03)
Societal Beliefs: Privilege [a]					-.03 (.02)	-.01 (.03)
Societal Beliefs: Connections [a]					-.05 (.02)*	-.03 (.03)
Just World Beliefs [a]					.03 (.01)	-.01 (.02)
Present SES [a]					.02 (.01)	-.00 (.01)
Family-of-origin SES [a]					.01 (.01)	-.00 (.01)
Female					-.02 (.03)	.03 (.04)
Age [a]					-.01 (.01)	-.01 (.01)
Ethnicity (White reference group)						
Asian					.02 (.04)	.01 (.05)
Latino/a					-.10 (.06)	-.05 (.06)
Mixed / Other					-.07 (.05)	-.11 (.05)*
Attending graduate school					-.03 (.07)	-.04 (.07)
Undergraduate GPA					-.02 (.04)	-.01 (.04)
Major: Unemployment Rate [a]					-.01 (.01)	.00 (.02)
Major: Income [a]					.00 (.00)	.00 (.00)
Work: Income [a]					.00 (.01)	-.01 (.01)
Work helps career goals [a]					.03 (.01)*	.03 (.02)
Random Effects						
Variance Slope				.02 (.01)	Varies	.00 (.01)
Between-person variance	.35 (.04)	Varies	.12 (.02)	.40 (.06)	Varies	.14 (.03)
Within-person variance	.25 (.02)	Varies	.23 (.01)	.23 (.02)	Varies	.21 (.02)
Model Fit Statistics						
Deviance	1479.04	Varies	1249.64	1470.58	Varies	1218.38
AIC	1485.04	Varies	1299.64	1482.58	Varies	1318.38
BIC	1498.92	Varies	1415.28	1510.34	Varies	1549.65
Number of Participants	211	Varies	211	211	Varies	211
Observations	755	Varies	754	755	Varies	754

Notes: [a] Grand-mean centered; * $p < .05$. Predictors entered individually in Models 2 and 5.

Study 2 multilevel model results with participants' career-related control strivings as predictors of their luck-oriented personal agency beliefs.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	3.74 (.07)*	Varies	3.64 (.16)*	3.63 (.09)*	Varies	2.05 (1.10)
Slope				.07 (.03)*	Varies	.29 (.38)
Career SPC [a]		.00 (.05)	-.03 (.07)		.02 (.07)	.16 (.11)
Career CPC [a]		.02 (.05)	-.01 (.06)		-.01 (.07)	-.09 (.09)
Career SSC [a]		-.03 (.04)	.02 (.04)		-.04 (.05)	.00 (.06)
Career CSC-Disengage [a]		.09 (.03)*	.05 (.03)		.09 (.04)*	.08 (.05)
Career CSC-Redirection [a]		.10 (.04)*	.06 (.04)		.10 (.05)	.05 (.07)
Societal Beliefs: Merit [a]		-.09 (.05)	-.15 (.06)*		-.10 (.06)	-.16 (.08)*
Societal Beliefs: Privilege [a]		.53 (.05)*	.65 (.06)*		.46 (.06)*	.54 (.09)*
Societal Beliefs: Connections [a]		.13 (.05)*	-.14 (.06)*		.10 (.06)	-.14 (.09)
Just World Beliefs [a]		.05 (.03)	.02 (.04)		.04 (.05)	.02 (.05)
Present SES [a]		.04 (.02)	.01 (.03)		.05 (.03)	.06 (.04)
Family-of-origin SES [a]		.03 (.02)	.01 (.02)		.02 (.03)	-.01 (.03)
Female		-.18 (.14)	-.15 (.13)		-.18 (.15)	-.15 (.16)
Age [a]		-.10 (.03)*	-.03 (.03)		-.13 (.04)*	-.06 (.04)
Ethnicity (White reference group)						
Asian		.42 (.17)*	.28 (.16)		.54 (.19)*	.45 (.20)*
Latino/a		.02 (.24)	.19 (.22)		.17 (.26)	.34 (.28)
Mixed / Other		.07 (.20)	.08 (.18)		.23 (.22)	.33 (.23)
Attending graduate school		.02 (.12)	.02 (.12)		.03 (.20)	.07 (.21)
Undergraduate GPA		.31 (.16)	.29 (.14)*		.31 (.18)	.37 (.17)*
Major: Unemployment Rate [a]		-.07 (.06)	-.03 (.06)		-.10 (.06)	-.02 (.07)
Major: Income [a]		.01 (.01)	.00 (.01)		.01 (.01)	.01 (.01)
Work: Income [a]		.00 (.02)	.03 (.02)		-.02 (.03)	.02 (.04)
Work helps career goals [a]		-.03 (.03)	-.05 (.04)		-.04 (.04)	-.07 (.06)
Fixed Effects - Slope						
Career SPC [a]					.00 (.03)	-.11 (.05)*
Career CPC [a]					.03 (.03)	.07 (.05)
Career SSC [a]					.00 (.03)	-.01 (.04)
Career CSC-Disengage [a]					-.00 (.02)	-.02 (.03)
Career CSC-Redirection [a]					.00 (.03)	.00 (.03)

Societal Beliefs: Merit [a]					.00 (.03)	.01 (.04)
Societal Beliefs: Privilege [a]					.05 (.03)	.06 (.04)
Societal Beliefs: Connections [a]					.03 (.03)	-.01 (.05)
Just World Beliefs [a]					-.00 (.02)	-.00 (.03)
Present SES [a]					-.02 (.02)	-.03 (.02)
Family-of-origin SES [a]					.00 (.01)	.01 (.01)
Female					-.00 (.05)	.01 (.06)
Age [a]					.02 (.01)	.02 (.01)
Ethnicity (White reference group)						
Asian					-.09 (.07)	-.12 (.07)
Latino/a					-.12 (.09)	-.12 (.10)
Mixed / Other					-.12 (.08)	-.19 (.08)*
Attending graduate school					-.08 (.09)	-.09 (.10)
Undergraduate GPA					-.01 (.06)	-.02 (.06)
Major: Unemployment Rate [a]					.02 (.02)	.00 (.03)
Major: Income [a]					-.00 (.00)	-.00 (.00)
Work: Income [a]					-.01 (.01)	-.01 (.02)
Work helps career goals [a]					-.01 (.02)	.02 (.03)
Random Effects						
Variance Slope				.05 (.02)	Varies	.03 (.01)
Between-person variance	1.03 (.12)	Varies	.56 (.07)	1.23 (.15)	Varies	.78 (.11)
Within-person variance	.51 (.03)	Varies	.47 (.03)	.42 (.03)	Varies	.40 (.03)
Model Fit Statistics						
Deviance	2076.05	Varies	1922.41	2050.62	Varies	1884.35
AIC	2082.05	Varies	1972.41	2062.62	Varies	1984.35
BIC	2095.93	Varies	2088.05	2090.38	Varies	2215.62
Number of Participants	211	Varies	211	211	Varies	211
Observations	755	Varies	754	755	Varies	754

Notes: [a] Grand-mean centered; * $p < .05$. Predictors entered individually in Models 2 and 5.

Study 2 multilevel model results with participants' career-related control strivings as predictors of their connections-oriented personal agency beliefs.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	4.26 (.05)*	Varies	4.35 (.12)*	4.28 (.06)*	Varies	5.28 (.79)*
Slope				-.01 (.02)	Varies	.04 (.29)
Career SPC [a]		.25 (.04)*	.16 (.05)*		.29 (.05)*	.26 (.08)*
Career CPC [a]		.24 (.03)*	.12 (.05)*		.21 (.05)*	.05 (.07)
Career SSC [a]		.13 (.03)*	.04 (.03)		.16 (.04)*	.12 (.05)*
Career CSC-Disengage [a]		.00 (.02)	-.00 (.03)		-.04 (.03)	-.03 (.04)
Career CSC-Redirection [a]		.05 (.03)	-.03 (.03)		.01 (.04)	-.02 (.05)
Societal Beliefs: Merit [a]		.10 (.04)*	-.03 (.04)		.09 (.05)*	-.07 (.06)
Societal Beliefs: Privilege [a]		.12 (.04)*	.02 (.05)		.10 (.05)*	-.03 (.06)
Societal Beliefs: Connections [a]		.20 (.03)*	.14 (.05)*		.20 (.04)*	.13 (.07)
Just World Beliefs [a]		.06 (.03)*	.05 (.03)		.06 (.03)	.07 (.04)
Present SES [a]		.05 (.02)*	.02 (.02)		.04 (.02)	.04 (.03)
Family-of-origin SES [a]		.03 (.02)	.02 (.02)		.00 (.02)	-.00 (.02)
Female		-.10 (.09)	-.09 (.10)		-.10 (.11)	-.13 (.11)
Age [a]		-.01 (.02)	-.02 (.03)		-.01 (.03)	-.02 (.03)
Ethnicity (White reference group)						
Asian		-.08 (.12)	-.15 (.12)		-.02 (.14)	-.07 (.15)
Latino/a		.26 (.16)	.07 (.16)		.46 (.19)	.24 (.20)
Mixed / Other		.15 (.14)	.05 (.14)		.16 (.16)	.11 (.16)
Attending graduate school		-.05 (.09)	-.03 (.09)		.22 (.15)	.23 (.16)
Undergraduate GPA		.06 (.11)	-.02 (.10)		.07 (.13)	.00 (.12)
Major: Unemployment Rate [a]		-.06 (.04)	-.09 (.04)*		-.08 (.05)	-.10 (.05)
Major: Income [a]		.00 (.01)	-.01 (.01)		.00 (.01)	-.01 (.01)
Work: Income [a]		-.00 (.01)	-.04 (.02)*		-.01 (.02)	-.05 (.03)
Work helps career goals [a]		.04 (.02)	.07 (.03)*		.00 (.03)	.04 (.04)
Fixed Effects - Slope						
Career SPC [a]					-.02 (.02)	-.06 (.04)
Career CPC [a]					.02 (.02)	.05 (.04)
Career SSC [a]					-.02 (.02)	-.07 (.03)*
Career CSC-Disengage [a]					.03 (.02)	.02 (.02)
Career CSC-Redirection [a]					.03 (.02)	.02 (.02)

Societal Beliefs: Merit [a]					.01 (.02)	.04 (.03)
Societal Beliefs: Privilege [a]					.01 (.02)	.04 (.03)
Societal Beliefs: Connections [a]					.00 (.02)	.01 (.04)
Just World Beliefs [a]					.00 (.02)	-.01 (.02)
Present SES [a]					.01 (.01)	-.01 (.01)
Family-of-origin SES [a]					.03 (.01)*	.02 (.01)
Female					.00 (.04)	.03 (.04)
Age [a]					.00 (.01)	.00 (.01)
Ethnicity (White reference group)						
Asian					-.05 (.05)	-.07 (.05)
Latino/a					-.16 (.07)*	-.14 (.07)*
Mixed / Other					-.01 (.06)	-.06 (.06)
Attending graduate school					-.13 (.07)	-.10 (.08)
Undergraduate GPA					-.01 (.04)	-.02 (.04)
Major: Unemployment Rate [a]					.01 (.01)	.01 (.02)
Major: Income [a]					-.00 (.00)	-.00 (.00)
Work: Income [a]					.01 (.01)	.01 (.01)
Work helps career goals [a]					.03 (.02)	.03 (.02)
Random Effects						
Variance Slope				.02 (.01)	Varies	.01 (.01)
Between-person variance	.44 (.05)	Varies	.31 (.04)	.50 (.07)	Varies	.36 (.06)
Within-person variance	.30 (.02)	Varies	.29 (.02)	.27 (.02)	Varies	.26 (.02)
Model Fit Statistics						
Deviance	1624.49	Varies	1534.45	1618.96	Varies	1493.36
AIC	1630.49	Varies	1584.45	1630.96	Varies	1593.36
BIC	1644.38	Varies	1700.09	1658.73	Varies	1824.63
Number of Participants	211	Varies	211	211	Varies	211
Observations	755	Varies	754	755	Varies	754

Notes: [a] Grand-mean centered; * $p < .05$. Predictors entered individually in Models 2 and 5.

Appendix B

Results of Study 1 and Study 2 multilevel modeling analyses, with participants' sociodemographic characteristics used as predictors of their expected personal SES attainment.

Study 1 results of multilevel model analyses predicting participants' expected SES attainment.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	7.41 (.10)*	Varies	6.78 (.28)*	7.41 (.10)*	Varies	6.75 (.29)*
Slope				.07 (.04)	Varies	.08 (.13)
Family-of-origin SES [a]		.28 (.04)*	.33 (.04)*		.29 (.04)*	.33 (.04)*
Female		-.19 (.21)	-.10 (.19)		-.18 (.22)	-.04 (.20)
Age [a]		.08 (.04)*	.08 (.04)*		.07 (.04)	.08 (.04)*
Ethnicity (White reference group)						
Latino/a		.22 (.36)	.71 (.38)		.26 (.36)	.83 (.39)*
Asian		.07 (.30)	.28 (.34)		.10 (.30)	.36 (.34)
Mixed / Other		.45 (.33)	.72 (.34)*		.46 (.33)	.75 (.34)*
Generational Status (3rd + generation reference group)						
1st generation		.50 (.30)	.41 (.32)		.49 (.30)	.35 (.33)
2nd generation		.13 (.26)	.09 (.29)		.13 (.26)	.01 (.30)
Parents did not attend University		.04 (.21)	.42 (.20)*		.03 (.21)	.39 (.21)
Fixed Effects - Slope						
Family-of-origin SES [a]					.04 (.02)*	.04 (.02)*
Female					-.12 (.10)	-.01 (.09)
Age [a]					.01 (.02)	-.00 (.02)
Ethnicity (White reference group)						
Latino/a					-.08 (.16)	.16 (.17)
Asian					.03 (.13)	.23 (.15)
Mixed / Other					-.20 (.15)	-.04 (.15)
Generational Status (3rd + generation reference group)						
1st generation					-.07 (.14)	-.15 (.14)
2nd generation					-.12 (.12)	-.16 (.12)
Parents did not attend University					-.03 (.09)	.03 (.09)

Random Effects						
Variance Slope				.04 (.03)	Varies	.02 (.02)
Between-person variance	.95 (.15)	Varies	.66 (.11)	.96 (.16)	Varies	.71 (.12)
Within-person variance	.79 (.07)	Varies	.68 (.06)	.71 (.08)	Varies	.60 (.06)
Model Fit Statistics						
Deviance	1226.69	Varies	1147.96	1219.84	Varies	1127.51
AIC	1232.69	Varies	1171.96	1231.83	Varies	1175.51
BIC	1244.63	Varies	1219.70	1255.71	Varies	1271.00
Participants	140	140	140	140	140	140
Observations	395	395	395	395	395	395

Notes: [a] Grand-mean centered; * $p < .05$. Predictors entered individually in Models 2 and 5.

Study 2 results of multilevel model analyses predicting participants' expected SES attainment.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects - Intercept						
Intercept	7.75 (.08)*	Varies	7.59 (.21)*	7.75 (.08)*	Varies	7.65 (.22)*
Slope				.00 (.03)	Varies	-.05 (.07)
Family-of-origin SES [a]		.12 (.02)*	.11 (.03)*		.12 (.03)*	.11 (.03)*
Female		-.05 (.14)	-.06 (.17)		-.04 (.15)	-.03 (.18)
Age [a]		.02 (.04)	.02 (.04)		.01 (.04)	.01 (.05)
Ethnicity (White reference group)						
Asian		-.01 (.18)	.26 (.21)		.01 (.20)	.27 (.23)
Latino/a		.09 (.25)	.27 (.29)		.05 (.27)	.20 (.31)
Mixed / Other		.25 (.21)	.16 (.24)		.17 (.23)	.05 (.25)
Attending graduate school		.09 (.13)	.15 (.13)		.11 (.24)	.17 (.24)
Undergraduate GPA [a]		-.00 (.17)	-.06 (.18)		-.09 (.18)	-.13 (.19)
Major: Unemployment Rate [a]		-.08 (.06)	.01 (.08)		-.07 (.07)	.02 (.08)
Major: Income [a]		.01 (.01)	.01 (.01)		.01 (.01)	.00 (.01)
Work: Income [a]		.05 (.02)*	.04 (.03)		.07 (.03)*	.06 (.04)
Work helps career goals [a]		.08 (.03)*	-.00 (.04)		.10 (.04)*	-.00 (.06)
Fixed Effects - Slope						

Family-of-origin SES [a]					.00 (.01)	-.01 (.01)
Female					-.01 (.05)	-.03 (.06)
Age [a]					.01 (.01)	.01 (.02)
Ethnicity (White reference group)						
Asian					-.01 (.07)	-.00 (.08)
Latino/a					.03 (.10)	.05 (.10)
Mixed / Other					.06 (.08)	.08 (.08)
Attending graduate school					-.00 (.11)	.18 (.24)
Undergraduate GPA [a]					.07 (.06)	.04 (.06)
Major: Unemployment Rate [a]					-.01 (.02)	-.01 (.03)
Major: Income [a]					.00 (.00)	.00 (.00)
Work: Income [a]					-.00 (.02)	.01 (.02)
Work helps career goals [a]					.00 (.02)	.01 (.03)
Random Effects						
Variance Slope				.02 (.02)	Varies	.01 (.02)
Between-person variance	1.02 (.12)	Varies	1.02 (.12)	.92 (.14)	Varies	.94 (.14)
Within-person variance	.64 (.04)	Varies	.61 (.04)	.61 (.05)	Varies	.58 (.04)
Model Fit Statistics						
Deviance	2234.96	Varies	2210.41	2229.82	Varies	2200.21
AIC	2240.96	Varies	2240.41	2241.82	Varies	2260.21
BIC	2254.88	Varies	2310.03	2269.67	Varies	2399.44
Number of Participants	213	Varies	213	213	Varies	213
Observations	766	Varies	766	766	Varies	766

Notes: [a] Grand-mean centered; * $p < .05$. Predictors entered individually in Models 2 and 5.