



**With a little luck: The role of luck in the relationship between
ambition and career success**

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Doctor of Philosophy

Ashlee J. Linck

Bachelor of Arts (English Literature) *University of Colorado*

Bachelor of Commerce (Hons) *Monash University*

Masters of Science (Management) *University of Colorado*

Department of Management

Monash Business School

Monash University

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Abstract

Careers scholars and practitioners routinely attribute successful career outcomes to agentic constructs—like ambition. As such, to capture the agentic perspective on career success, the present thesis incorporates ambition into the career success discussion. However, relying on ambition alone overlooks other factors outside of one’s control that may condition or influence its relationship with career success—such as luck. While luck is widely acknowledged as instrumental in everyday life, it has been largely underrepresented as a contributing factor to career success. Therefore, this thesis explores whether something non-agentic that lacks purposeful control or intention, like luck, may partly influence one’s career success. As such, the present thesis endeavours to answer the research question: *What is the role of luck events in the translation of ambition into career success?*

There are three purposes of this thesis: (1) to validate a 5-item ambition scale developed by Duckworth, Peterson, Matthews, and Kelley (2007), (2) to create and content validate a measure of objective luck events, and (3) to investigate the role of luck in the relationship between ambition and extrinsic (salary level, occupational prestige) and intrinsic (career satisfaction) career success.

First, Study 1 of this thesis validated the ambition scale developed by Duckworth et al. (2007) for use in Study 3, as well as future social sciences research. Study 2 developed and content validated a measure of objective luck events. Drawing on prior careers and psychology literature, as well as Hobfoll’s (2001) Conservation of Resources (COR) theory, Study 3 proposed a research model of moderated mediation in which luck moderates the indirect relationship between ambition and career success via the mediating roles of human capital and social capital. Study 3, quantitative and time-lagged in design, found that human

capital mediated the relationship between ambition and extrinsic career success. Further, social capital mediated the relationship between ambition and extrinsic career success. Luck moderated the translations of ambition to social capital and human capital to extrinsic career success, albeit in unanticipated directions. Similarly, luck negatively moderated the mediated relationship between ambition and extrinsic career success via social capital. Broadly, the present study contributes to careers literature by providing a validation of the ambition scale by Duckworth et al. (2007), supplying a content validated measure of objective luck events, and expanding our understanding of the role of luck in career success. Specifically, the present study enriches our understanding of how luck moderates the translation of ambition into career success via social capital. Lastly, the present study theoretically broadens the application of COR theory by introducing a non-agentic resource: luck.

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List of Acronyms

The following list defines acronyms used throughout the thesis.

ABS	Australian Bureau of Statistics
CFA	Confirmatory factor analysis
CFI	Comparative fit index/indices
CI	Confidence interval(s)
CMV	Common-method variance
COR	Conservation of Resources (theory)
EFA	Exploratory factor analysis
GMA	General mental aptitude
HPI	Hogan Personality Inventory
LOC	Locus of control
MUHREC	Monash University Human Resources Ethics Committee
OCS	Objective career success
RMSEA	Root mean square error of approximation
SCS	Subjective career success
SES	Socioeconomic status
TLI	Tucker-Lewis index
VIF	Variance inflation factor

Declaration

This thesis contains no material which has been accepted for the award of any other degree or diploma at any university or equivalent institution and that, to the best of my knowledge and belief, this thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

Ashlee J. Linck

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Introduction

Careers scholars have long attributed successful career outcomes to personal agency, such as motivation, effort, and conscientiousness (Miller Burke & Attridge, 2011; Ng & Feldman, 2010a; Seibert, Crant, & Kraimer, 1999). Career success is defined as the accumulated positive work and psychological outcomes resulting from one's work experiences (Ng, Eby, Sorensen, & Feldman, 2005; Seibert et al., 1999) and is often measured according to salary, number of promotions, occupational prestige, and subjective satisfaction (Ng & Feldman, 2010a; Ng et al., 2005). Theoretical models of career success have examined individual and organisational antecedents including but not limited to human capital, social capital, motivational variables, and demographic variables (Judge & Bretz Jr, 1994; Kammeyer-Mueller & Judge, 2008; Ng & Feldman, 2010b; Seibert et al., 1999). Common to these approaches is that career success occurs as a result of control and planning. However, even motivated, conscientious, and ambitious people do not always achieve their full potential of career success. For example, a person may be ambitious, acquire relevant education, and develop a strong social network, yet still have a job that pays a low salary. As such, what may determine the translation of these attributes into career success may partly rely on something non-agentic, such as luck. While luck is widely acknowledged in everyday life (André, 2006; Pritchard & Whittington, 2015), its role in influencing people's professional success has been overlooked in the careers literature (Hafer & Gresham, 2008). Therefore, there is an important gap in our understanding of career success and what contributes to it non-agentially. By not acknowledging the role of luck in this context, we potentially restrict our understanding of how and why career success is achieved.

To capture the agentic perspective on career success, the present thesis incorporates ambition. Ambition is the persistent and generalised striving for success, attainment, and accomplishment (Judge & Kammeyer-Mueller, 2012). While Judge and Kammeyer-Mueller

(2012) found that ambition has meaningful relationships with career success, the literature on ambition, as a generalised construct independent to career ambition or other similar constructs, remains underdeveloped (André, 2006; Judge & Kammeyer-Mueller, 2012). Whilst Otto, Roe, Sobiraj, Baluku, & Garrido Vásquez (2017) define career ambition as the motivation in one's mind to actively further their career by having a strong focus on one's work life and career, this construct excludes a more generalised ambition that exists outside of a careers context. Generalised ambition has now been shown to translate into career success outcomes, and, as such, has opened up the dialogue to explore the possibility that being ambitious outside of a careers context can also influence other parts of one's life which indirectly intersect with educational attainments or career success outcomes (Judge & Kammeyer-Mueller, 2012). As such, examining ambition's influence on career success captures an agentic contributor to career success outside of the more specific career ambition, while also expanding the body of knowledge on ambition. However, relying on ambition alone overlooks other factors outside of one's control that may condition or influence its relationship with career success; such as luck.

Luck is defined as events that “defy human action/intention” and are not controllable (Ma, 2002, pg. 526). A luck event could be entering a career that experienced a boom (e.g., builder and the housing boom) or receiving a financial windfall (Bright, Pryor & Harpham, 2005). There has been some examination of luck from a management perspective, but it has primarily been studied in conjunction with knowledge/ability (Harper, 1996), risk (Pritchard & Whittington, 2015), competitive advantage (Ma, 2002), free will (Pritchard & Whittington, 2015), moral luck (Michaelson, 2008), or locus of control (LOC; André, 2006). Luck events have not, to the best of my knowledge, been considered specifically as a factor that significantly impacts the relationship between ambition and career success. This study endeavours to examine how luck events influence the extent to which ambition translates into

career success, thus identifying luck as a factor that facilitates or inhibits the translation of ambition into career success.

Specifically, the present thesis will first validate a scale for generalised ambition and then introduce luck events as a moderator of the relationship between ambition and career outcomes. In doing so, this study will allow us to identify boundary conditions of the ambition–career success relationship, as well as understand luck’s role in influencing the translation of ambition into career success. This knowledge will allow us to better theoretically understand the scope of factors (outside one’s control) that influence career success and better prepare future workers for what to expect in their career development processes. Thus, this study addresses the following primary research question:

Research Question: What is the role of luck events in the translation of ambition into career success?

Significance of this Study

There is a lack of discussion in the careers and management literature about both ambition and the role of luck events in people’s career outcomes. Acknowledging this deficiency is important because it will address a significant gap of knowledge in the careers literature and provide a more comprehensive perspective about the range of influences on people’s career outcomes. More specifically, by addressing the above research question, the present study contributes to theory, empirical research, and practice in the following ways.

First, despite increasing work on ambition in the careers literature, there is an absence of a validated measure of the construct. There are existing measures of related constructs such as career ambition, career aspiration, drive, and achievement (Bjørnebekk, Diseth, & Ulriksen, 2013; Elchardus & Smits, 2008; Judge & Kammeyer-Mueller, 2012; Lindberg & Rantatalo, 2015), however none of these measures capture the more generalised construct of

ambition. A brief 5-item measure of ambition was developed by Duckworth et al. (2007) and, to my knowledge, has not been validated. This ambition scale was chosen because it is the only generalised ambition scale. The ambition scale was developed by Duckworth et al. (2007), but was not published and no validity tests were conducted. One aim of this thesis is to therefore examine the reliability, factorial validity, and convergent and discriminant validity of the measure of ambition offered by Duckworth et al. (2007). This study provides an important empirical contribution by validating a brief ambition scale for use in future personality, management, and social sciences research. Further, Ng et al. (2005) explicitly state in their paper's limitations that despite their inclusion of a wide range of variables, there are predictors of career success that were not included because of the lack of available studies, such as ambition. As such, the validation of the 5-item measure of ambition, as well as its inclusion as a predictor of career success, will respond to Ng et al.'s (2005) call for further exploration of ambition within the career success discussion.

Second, by examining the role of luck events, the present study examines broader contributing elements to career outcomes beyond the traditional motivational and human capital elements. While Bright, Pryor, and Harpham (2005) conducted two studies that investigated the role of chance events as influences in career decision making, their work focused more specifically on chance events in the context of the career decision making process and the role that LOC played in that relationship. The work of Bright, Pryor, and Harpham (2005) focused on chance events, defined as “unplanned, accidental, or otherwise situational, unpredictable, or unintentional events or encounters that have an impact on career development and behaviour” (as cited in Rojewski, 1999, p. 269). The present study will build upon the work of Bright, Pryor, and Harpham (2005) by examining luck, a similar construct to chance, in relation to career. It is theoretically reasonable, according to Hobfoll's (2011) Conservation of Resources (COR) theory, to expect a luck event, when

viewed as a resource, to impact the translation of ambition into career success. According to COR, when people have resources, they are better able to invest resources to acquire more resources (Hobfoll, 2001). For example, assume an ambitious person pursues additional tertiary education (obtains more knowledge resources) and is randomly placed within an organisation for a case study assignment. This person meets an influential colleague in the Senior Management team while working on his/her assignment and, ultimately, this manager becomes a mentor and champion for this student. As a result, the ambitious person is offered a senior role in the organisation. While obtaining more education would certainly impact this person's career positively, the luck of meeting and interviewing this manager has intensified the success this ambitious person has achieved. Thus, in the presence of luck, the relationship between ambition and career success should intensify.

With this in mind, the present study seeks to enrich our theoretical understanding of how luck events moderate the translation of ambition into career success, via human and social capitals attainments. Human capital—the skills and knowledge that individuals acquire to enhance their potential productivity and success in the labour market (Judge, Cable, Boudreau, & Bretz Jr, 1995)—and social capital—the network structure and social resources of employees (Seibert, Kraimer, & Liden, 2001)—have been considered the primary mechanisms linking antecedents, such as personality, with career success (Judge et al., 1995; Ng & Feldman, 2010a). This study will theoretically broaden the application of COR theory by introducing a non-agentic resource—luck—and, consequently, contribute to traditional and existing careers theory that relies on controllable and strategic determinants of career success (Judge et al., 1995; Kammeyer-Mueller & Judge, 2008; Ng & Feldman, 2010a; Seibert et al., 1999). This is important because our prior understanding has neglected to explore the role of the non-agentic within the careers perspective and potentially misrepresented our ability to fully determine our career outcomes. Further, the present study will contribute theoretically

to the literature by identifying the impact and reach that ambition, as a generalised construct, has on human capital, social capital, and career success (intrinsic and extrinsic). In doing so, our understanding of ambition within a careers context will be enriched.

Practically, the present investigation will provide several valuable insights. First, an acknowledgement of luck events as a contributor to career success will allow future social policy makers to consider the impact that being “lucky” may have on employees in order to design policies which provide additional resources to those affected. Second, a greater understanding about the roles that ambition and luck events play in career outcomes will allow the development of more effective career counselling, career development, and human resources strategies. For example, human resources professionals may specifically recruit candidates with high levels of ambition, or identify employees with ambition, and target them for development opportunities within the organisation. It will allow career experts to better communicate how much of one’s career is controllable and how much is dependent on ambition and/or luck. With a deeper understanding of the role that both ambition and luck events play in career success, a worker can better craft and manage expectations of their own career path.

The following chapter will review extensive literature of relevant constructs for all three studies of this thesis. Following that, Study 1, Study 2, and Study 3 will be presented in detail, followed by an overall thesis discussion and conclusion.

Chapter One: Literature Review

This chapter begins with a critical review of the literature pertaining to ambition, human capital, social capital, career success, and luck. Beyond reviewing the key constructs, this chapter will also discuss why luck is different to chance, the concerns around subjective luck, and the importance of objectivity when researching luck events within a careers context. Lastly, this chapter will review the core tenets of COR theory as well as the existing organisational behaviour literature that uses it as a central reference.

Ambition

Ambition is defined varyingly in the literature (Judge & Kammeyer-Mueller, 2012). Most crudely, the Oxford Dictionary defines ambition as “a strong desire to do or achieve something” and as a “desire and determination to achieve success” (Ambition. [n.d.] In *Oxford Dictionary*, para. 1). Schwyhart and Smith (1972, p. 227) define ambition as “a willingness to accept job responsibilities”, and Van Vianen (1999, p. 640) defines it as “career intention ... a goal for activity involvement”. Elchardus and Smits (2008, p. 248) state that “people are considered ambitious when they entertain plans and goals for their professional future, are intent on making promotion and on realizing a ‘nice career’, and agree to describe themselves as ambitious”. Porter (1976, p. 24) describes that “the ambition evidenced by a youth theoretically explains a person’s motivation, given certain capacities to achieve and a certain visible personality”. Psychologists have viewed ambition as a personality trait (Hansson, Hogan, Johnson, & Schroeder, 1983). Jackson, Paunonen, Fraboni, and Goffin (1996) viewed ambition as a facet of conscientiousness, and Hogan and Holland (2003) as a facet of extraversion, despite the five-factor model of personality omitting ambition (Jones, Sherman, & Hogan, 2017). Sociologists, by contrast, have considered ambition as educational or occupational aspirations and as a product of parental, social, or socioeconomic environments (Judge & Kammeyer-Mueller, 2012; Sewell, Hauser,

Springer, & Hauser, 2003). Children with high educational aspirations and high occupational aspirations obtain higher career status and higher paying jobs (Judge & Kammeyer-Mueller, 2012).

The aspirational nature of ambition is consistent amongst these various definitions, suggesting there is a motivational process at work that is oriented toward the attainment of outcomes (Judge & Kammeyer-Mueller, 2012). Judge and Kammeyer-Mueller (2012, pg. 759) endeavoured to summarise and integrate these definitions, and defined ambition as “the persistent and generalized striving for success, attainment, and accomplishment”. As aspiration to achieve a certain status or rank is one of the anchors of ambition, Judge and Kammeyer-Mueller’s (2012) definition acknowledges the aspirational nature of ambition and establishes that ambition is about attaining rather than achieving. Following Judge and Kammeyer-Mueller (2012), the present study defines ambition as “the persistent and generalized striving for success, attainment, and accomplishment” (Judge & Kammeyer-Mueller, 2012, pg. 759).

The vocational behaviour literature relates ambition to career advancement (e.g., promotions; Ashby & Schoon, 2010; Howard & Bray, 1988; Jansen & Vinkenbunrg, 2006; Metz, 2004) and to career satisfaction (Hogan & Chamorro-Premuzic, 2015; Hogan & Holland, 2003; Judge & Kammeyer-Mueller, 2012). For example, Hogan and Schroeder (1981) believe that ambition is a constructive personal characteristic that may result from an individual’s internalised set of goals and aspirations that promote social progress and personal well-being. Their perspective is supported in the literature through extensive research on educational achievement and creativity (cf. Hansson, Hogan, Johnson, & Schroeder, 1983; Hogan & Schroeder, 1981; MacKinnon, 1962; Oden, 1968). MacKinnon’s (1962) study of 40 architects found that individuals with high levels of ambition, passion for work and motivation were also high in achievement and creativity.

From a psychological perspective, Cantor (1990) describes ambition as a “middle-level” trait. While individuals have certain traits—like extraversion or conscientiousness—the middle-level aspect of personality refers to things that individuals undertake with their personality in context (Judge & Kammeyer-Mueller, 2012). Cantor, consistent with a social cognitivist perspective, believes middle-level traits more directly impact behaviour than more abstract personality traits (Judge & Kammeyer-Mueller, 2012). This social cognitive position views ambition as a life task (Cantor, Norem, Niedenthal, Langston, & Brower, 1987), characteristic adaptation (McCrae & Costa Jr, 1999), or personal concern (McAdams, 1995) that emerges due to underlying personality dispositions (Judge & Kammeyer-Mueller, 2012). As discussed above, ambition has been defined and applied in various ways throughout the sociological, psychological, and vocational literatures. The consistency throughout the literature regarding aspiration has resulted in the present study embracing Judge and Kammeyer-Mueller’s (2012) definition of ambition for the present study.

Measurements of ambition. Existing validated measurement scales of generalised ambition are limited. Hogan and Holland (2003) developed their personality index (Hogan Personality Inventory [HPI]) to include ambition. The HPI is a measure of normal personality that is designed for personnel selection, individualised assessment, and career-related decision making (Hogan & Holland, 2003). The seven scales that make up the HPI include adjustment, ambition, sociability, likeability, prudence, intellectance, and school success (Hogan & Holland, 2003). They define ambition as “the degree to which a person seems socially confident, leader like, competitive and energetic” and argue ambition is constructed of competitiveness, self-confidence, lack of depression, leadership, identity, and a lack of social anxiety (Hogan & Holland, 2003, p. 14).

Applied researchers who study human performance have also used components of ambition as part of newly created, yet parallel, constructs—proactivity and grit (Duckworth et

al., 2007). Similar constructs (e.g., extraversion) or higher-order constructs (e.g., grit) incorporate elements of ambition into their measures (Duckworth et al., 2007). However, as of yet, examining ambition as an independent construct cannot be easily accomplished because no accessible validated measure of it exists. Related concepts, such as career ambition and drive have been measured, but as I elaborate in the following section, they do not capture in entirety the complexity of ambition. Thus, scale validation work is a much-needed step for ambition in the psychology, management, and social sciences literatures. This study is designed to fill this void by validating a measure of ambition.

Review of Related Constructs

The following section will introduce related, interwoven, and parallel constructs to ambition that also include elements of striving for successful outcomes. As it is essential to demonstrate that a scale captures a phenomenon that is distinct from what is assessed by existing available measures, I examined how ambition was distinct from related constructs. These constructs include career ambition, career aspirations, drive, and conscientiousness. These were selected because the literature has viewed them as overlapping constructs or, in some cases, used them interchangeably with ambition. For example, ambition is commonly used reciprocally with career ambition, thus assuming that ambition refers exclusively to career outcomes (Ashby & Schoon, 2010; Desrochers & Dahir, 2000). The criteria used to select these related constructs was determined by reviewing each of the constructs and scales from previously published research. Each construct was evaluated to determine whether it distinguished between generalised ambition and more specific interpretations or elements of ambition (e.g., career ambition). Next, each construct was examined to see whether it incorporated broader dimensions that extend beyond ambition that result in some overlap, but not sameness (e.g., conscientiousness). This section will clarify in detail why ambition is distinct from the above similar constructs identified in the literature.

Career ambition. Career ambition is a domain-specific type of ambition discussed in the careers and psychology literature. Lecherous and Smits (2008, p. 248) determine a person to have career ambition “when they entertain plans and goals for their professional future, are intent on making promotion and on realizing a ‘nice career’, and agree to describe themselves as ambitious”. Judge and Kammeyer-Mueller (2012) built on Cantor’s (1990) work by including ambition in their study and arguing that a middle-level trait has more influence on behaviour than personality traits. From this logic, a focus on career ambition has emerged, with a more precise focus on career orientation and achievement motivation as predictors of career development (Otto et al., 2017). Career orientation, as a facet of career ambition, is one’s aspiration to attain vocational goals, even if great effort is required (Pekrun, Elliot, & Maier, 2009). Otto et al. (2017) showed that career ambition impacts both extrinsic (e.g., pay) and intrinsic (e.g., career satisfaction) career success. According to the study by Otto et al. (2017), extrinsic success was positively predicted by career orientation and, conversely, achievement motivation was negatively related to intrinsic success and even diminished over time. Ashby and Shon (2010) found that, in adulthood, career ambition is positively associated with adult earnings. They also found career ambition was positively associated with teenage career aspirations that are consequently linked to adult social status attainment and earnings in adulthood (Ashby & Shon, 2010).

El Baroudi, Fleisher, Khapova, and Richardson (2017) found that taking charge behaviour, a construct similar to and associated with career ambition, mediated the positive relationship between employee ambition (employees who actively engage in a wide range of proactive career behaviours at work) and career satisfaction (intrinsic career success). Taking charge behaviour is defined as “voluntary and constructive efforts, by individual employees, to effect organizationally functional change with respect to how work is executed within the contexts of their jobs, work units, or organisations” (Morrison & Phelps, 1999, p. 403). El

Baroudi et al. (2017) also showed that pay positively moderated this indirect effect of taking charge behaviour and employee ambition. Thus, the relationship between employee ambition and taking charge behaviour is stronger when ambitious employees receive an increase in pay, leading to increased career satisfaction (El Baroudi et al., 2017).

Generalised ambition differs from career ambition. Overtly, career ambition is just that—the motivation to actively further one’s career-related attainments, as well as a high motivation to excel at work (the concept of achievement motivation; Otto et al., 2017). The primary difference between ambition and career ambition is the endpoint being a quantifiable workplace or career outcome, as opposed to a broader landscape of life outcome. For example, a person who is high in career ambition will likely be in a senior role within an organisation, such as a General Manager or Regional Director. However, while a person higher in general ambition may be successful in their career, they may also be ambitious in achieving a higher level of fitness, a higher level of spirituality, higher career satisfaction, or a higher level of work life balance throughout their lives. In addition, more generalised ambition can develop in any or all of early stages (before a career), current stages of one’s life, and post-career life, as opposed to the more specific career ambition which occurs solely during the stage of life when a career is being developed and obtained (Judge & Kammeyer-Mueller, 2012). As such, it is evident that career ambition is not the same as general ambition, and the present study will focus on a more generalised definition of ambition as defined by Judge and Kammeyer-Mueller (2012).

Conscientiousness. The psychological literature has historically combined the construct of ambition into trait conscientiousness, one of the Big Five personality constructs (Jones et al., 2017). The dictionary provides two definitions of conscientiousness: “(i) Thorough or assiduous efforts to comply with external or internalized regulations, and (ii) Guided by or in accordance with the ethical dictates of an internal, self-confronting

conscience, being principled, personally sensitive to issues of fairness and injustice” (In Block, 2010, pg. 7). The Big Five defines conscientiousness as being disciplined, organised, and achievement-oriented (Costa & McCrae, 1992a). The psychological literature primarily focuses on the first definition and assimilates conscientiousness to qualities such as abiding, diligence, assiduousness, organisation, and perfectionism (Block, 2010; Stoeber, Otto, & Dalbert, 2009).

These qualities do not fully encompass ambition, as they do not comprehensively envelop the definition and boundaries of generalised ambition. As such, ambition, as a construct, extends more broadly than conscientiousness. For example, the Terman life-cycle study (a study in 1922 designed to understand personal and life characteristics of high-ability children) found that ambition was a combination of Emotional Stability, Extraversion, and Conscientiousness (Judge & Kammeyer-Mueller, 2012). Judge and Kammeyer-Mueller (2012) identify that ambition is distinct from conscientiousness; ambition is a middle-level trait, it is not as broad as conscientiousness, and does not include dependability, dutifulness, or orderliness (Judge & Kammeyer-Mueller, 2012). Further, the achievement striving aspect of conscientiousness, or achievement motivation, is not the same as ambition (Judge & Kammeyer-Mueller, 2012). McClelland (1961) explains that a person who is high in achievement motivation desires subconsciously to be intrinsically skilled and competent, whereas an ambitious person desires the rewards that this competence produces (Judge & Kammeyer-Mueller, 2012). Hence, a person higher on the striving aspects of conscientiousness values the achievement of a job well done, regardless of whether it was recognised extrinsically (Judge & Kammeyer-Mueller, 2012). In contrast, a highly ambitious person would be interested in his or her efforts being tied to tangible outcomes of success—promotions or pay raises (Judge & Kammeyer-Mueller, 2012). Hence, though somewhat related, ambition is distinct from conscientiousness.

Career aspiration. Ambition differs from career aspiration. While ambition is a habitual striving for or the desire for accomplishment, career aspiration is interpreted as an individual's desire to select a specific career (e.g., aspiration to be a lawyer or a photographer; Gray & O'Brien, 2007). Gray and O'Brien determined that career aspiration includes three dimensions: aspiring to leadership and promotions, training and managing others, and pursuing further education (Gray & O'Brien, 2007).

The primary difference between ambition and career aspiration is in terms of "traitedness" and "concreteness" (Judge & Kammeyer-Mueller, 2012, p. 760). As discussed by Allport (1947, p. 187), ambitious individuals "may have a consistent direction of striving, but their goals are either transient or else undefinable". In contrast, career aspiration is clearly defined (e.g., obtaining a promotion, obtaining higher education). For example, an ambitious person may strive to generally achieve in life across different contexts such as personal wellness, religious faith, and community involvement. In contrast, a person with career aspiration would be ambitious to achieve specific career outcomes like promotions, but not be ambitious within other life contexts, such as personal wellness and fitness, spirituality, etc. Thus, ambition is broader and less specifically defined than career aspiration.

Drive. Drive and ambition are sometimes used interchangeably in the literature (Judge & Kammeyer-Mueller, 2012; Lindberg & Rantatalo, 2015). A qualitative study by Lindberg and Rantatalo (2015) found that participants believed ambition was valued in job recruitment as it was inferred as something that indicated drive, and thus used "drive/ambition" interchangeably. Judge and Kammeyer-Mueller (2012, pg. 764) also used drive interchangeably with ambition by asking their respondents to evaluate the degree to which a person was ambitious, or "characterised by ambition, drive, and willingness to work in order to attain success".

While motivation was once viewed as something trait-based—something one has or does not possess—it is now understood as a process that is influenced by one’s relationship with another (Yahalom, 2014). Kern, Friedman, Martin, Reynolds, and Luong (2009) determined that the motivation dimension reflects drive to succeed and originality. More recent scholars believe that “all motivation unfolds from our personal experience of exchange with others” (Yahalom, 2014, p. 396). Drive, consequently, is intertwined with the concept of motivation, and thus becomes further distant from ambition (Bates, 1979; Yahalom, 2014).

Hansson, Hogan, Johnson, and Schroeder’s (1983) work determined that “drivenness”—the pursuit of an individual’s career agenda within a challenging and competitive environment—was empirically distinct from ambition. Within this pursuit, the individual is often impatient with others, hurries them along, is frequently irritated, works harder and longer, and lacks time for eating or social amenities (Hansson et al., 1983). In contrast, ambition was measured as a distinct construct characterised by items encompassing involvement such as “How would your spouse (or best friend) rate your general level of activity” and “Would people who know you well agree that you have less energy than most?”. Hansson et al. (1983) found that drivenness did not correlate with ambition. Hence, drive is different to ambition because it is correlated with anxiety related items and ambition is correlated with items relating to involvement. As such, and consistent with existing relevant literature, the present study will consider drive and ambition as separate but sometimes overlapping constructs.

Based upon the above discussion of ambition (what it is, and how it differs from related constructs), ambition can be more accurately defined as “the persistent and generalized striving for success, attainment, and accomplishment” and can develop any time before, during, and/or after one’s career (Judge & Kammeyer-Mueller, 2012, p.759).

Ambition runs parallel to constructs like drive and career ambition, but remains unique in its

presence throughout one's life, both in career pursuits and outside of them. How ambition uniquely translates to outcomes like career success (extrinsic and intrinsic) is a central pillar of the present study. To understand career success as an outcome, I will now conduct a critical review of the relevant literature.

Career Success

The majority of empirical research on career success has focused on how to predict success and establishing best practices for how to achieve it (Spurk, Hirschi, & Dries, 2019). Flagship studies involving career success have explored the relationships between career success and career strategies (frequent organisational moves, networking; de Janasz & Forret, 2008), personal characteristics (personality traits, gender, race; Spurk & Abele, 2011), and how planned or unplanned life events (becoming a parent) may impact this success (Valcour & Ladge, 2008). Existing studies have also focused on antecedents of subjective career success (SCS), such as career satisfaction (Shockley, Ureksoy, Rodopman, Poteat, & Dullaghan, 2016; Spurk et al., 2019).

Career success has been defined as the accumulated positive work and psychological outcomes resulting from one's work experiences (Ng et al., 2005; Seibert et al., 1999). From here, the distinction between objective career success (OCS) and SCS has been discussed conceptually in terms of definition and measurement (Abele & Spurk, 2009; Arthur, Khapova, & Wilderom, 2005; Gunz & Heslin, 2005; Spurk et al., 2019). OCS is defined as directly observable by others and measurable in a standardised way (Arthur et al., 2005; Gunz & Heslin, 2005) and by considering a person's career against societal norms concerning salary, job level, promotion history, or occupational prestige (Dries, Pepermans, Hofmans, & Rypens, 2009; Spurk et al., 2019). Objective career outcomes (salary attainment) are examples of the extrinsic dimension. Examples of extrinsic career outcomes are occupational

prestige, promotions, ascendancy, occupational status, number of promotions, and salary attainment (Ng et al., 2005).

SCS is defined as the employee's evaluation and experience of achieving personally meaningful career outcomes (Ng et al., 2005; Seibert, 2006; Shockley et al., 2016; Spurk et al., 2019). Most typically, SCS is measured as career satisfaction (Greenhaus, Parasuraman, & Wormley, 1990; Seibert, Kraimer, Holtom, & Pierotti, 2013) or perceived career success (Heslin, 2003; Turban & Dougherty, 1994), although much recent research has focused on growth and development, personal life, and authenticity (Shockley et al., 2016; Spurk et al., 2019). Career satisfaction is identified as a vital element of career success in actual labour market generations (Hall & Chandler, 2005; Ng et al., 2005). As Spurk et al. (2019) show, based upon meta-analytical reviews, the correlation between OCS and SCS has been small to moderate, ranging from .22 to .30 (Ng et al., 2005) and the correlations between OCS and specific SCS facets has been even smaller or nonsignificant (Shockley et al., 2016).

Antecedents of career success. Existing literature specifies four integral antecedents of career success: human capital, organisational sponsorship, socio-demographic status, and stable individual differences (Ng et al., 2005; Spurk et al., 2019). Human capital consists of the skills and knowledge that individuals acquire to enhance their potential productivity and success in the labour market and typically refers to individuals' educational, personal, and professional experiences that can enhance their extrinsic career outcomes (Becker, 1964, Judge et al., 1995; Judge, Klinger, & Simon, 2010). Organisational sponsorship variables represent the extent to which organisations provide exceptional assistance to employees to facilitate their career development (Ng et al., 2005). Socio-demographic predictors of career success include gender, race, marital status, and age (Ng et al., 2005). Stable individual difference variables represent dispositional traits, such as the Big Five personality factors (Costa & McCrae, 1992b) of Neuroticism, Conscientiousness, Extroversion, Agreeableness,

and Openness to Experience. Generally speaking, human capital and socio-demographic predictors generally have stronger relationships with OCS, whereas organisational sponsorship and stable individual differences generally relate more strongly to SCS (Ng & Feldman, 2010b; Ng et al., 2005).

In a recent meta-analysis, Ng and Feldman (2014) considered as many as 64 potential correlates of OCS (salary). They confirmed a significant correlation with salary for 48 of the assessed factors, ranging from socio-demographic aspects such as gender, to work environment factors such as unfavourable job conditions (Hirschi, Nagy, Baumeler, Johnston, & Spurk, 2018). Ng and Feldman (2014) categorised the correlates of career success into socio-demographic (gender and having children), trait-related (cognitive ability and extraversion), motivational (ambition and job involvement), skill-related (education level and geographic relocations in the career), social environment (leader–member exchange quality and networking behaviour), and work environment factors (career-related organisational support and job control (Hirschi et al., 2018). Their analyses confirmed that variables from all six categories significantly correlated with salary. Ng and Feldman (2014) also examined the correlates of SCS and catalogued them into background-related (gender), trait-related, motivational, skill-related, social network, and organisational and job factors (Hirschi et al., 2018). Their findings showed that background-related and skill-related factors were not often significantly related while aspects belonging to the trait-related, motivational, social network, and organisational and job categories showed significant correlations with career satisfaction (Hirschi et al., 2018).

Wayne, Liden, Kraimer, and Graf (1999) examined variables representing the contest-mobility norm (human capital and motivation) and the sponsored-mobility norm (supervisor sponsorship and mentoring) as determinants of career success. The contest-mobility model suggests that all employees compete fairly and openly for career attainments (e.g.,

promotions, work on key projects). No employee has a clear advantage or disadvantage and the “winners” of career outcomes are the most skilled and most willing to put forth the effort (Rosenbaum, 1984). According to the contest-mobility norm, human capital investments (e.g., education) result in increased rewards from the employer, including salary increases. More educated workers have more options, and thus, increase their chances of managerial advancement and salary progression (Judge et al., 1995). The sponsored-mobility perspective suggests that established performers or elites take notice of those who they believe are superior and/or have high potential and direct special attention to them (Ng et al., 2005). This attention encourages sponsoring activities (e.g., mentoring) and helps them “win” the competition (Ng et al., 2005).

While prior studies had examined them separately, their intended contribution was to examine the relative influence of each norm within a comprehensive model (Wayne et al., 1999). Contrary to prior findings and existing literature, the study found limited support for the contest-mobility norm and stronger support for the sponsored-mobility norm. However, training (a human capital variable), was positively related to career satisfaction but was not significantly related to salary progression or promotability (Wayne et al., 1999). These results suggest that company-sponsored training may enhance intrinsic career success (i.e., satisfaction) but may have less effect on extrinsic career success (Wayne et al., 1999).

Ng et al. (2005) found preliminary support for the contention that both the contest-mobility model and the sponsored-mobility model were useful in understanding career success. They found that human capital, organisational sponsorship, socio-demographic status, and stable individual differences were all related to various measures of career success and, as such, the contest- and sponsored-mobility models together suggested that career success was primarily a function of two important career experiences (working hard and receiving sponsorship; Ng et al., 2005). According to Ng et al. (2005), working hard

exemplifies a merit-based explanation for career success because enhancing one's competency through job-related knowledge, skills, and abilities will likely be rewarded in the career contest (e.g., Cable & Murray, 1999). However, according to Ng et al. (2005), attracting and obtaining sponsorship indicates a more political explanation for career success and has been accordingly recognised in prior research (e.g., Judge & Bretz Jr, 1994; Wayne et al., 1999).

Objective career success. Objective career success, or career success that can be directly observable by others and is measurable, represents the extrinsic dimension of career success. There is robust discussion in the careers literature around the antecedents to this form of career success. Antecedents of OCS include human capital, social capital, and socio-demographic predictors. The following section will examine these antecedents within the context of OCS.

Antecedents of objective career success. Predictors of OCS include human capital and socio-demographic predictors, such as gender, race, marital status, and age (Ng et al., 2005). These antecedents will be explored, and a review of relevant, existing studies will now be conducted.

Human capital. While there are a large range of factors related to OCS, past research has frequently theoretically explained the attainment of OCS by human capital (Hirschi et al., 2018). Human capital theory (Sweetland, 1996) indicates that career success depends on the level of education, knowledge, skills, and competencies of a person that allows him or her to obtain jobs and perform to an appropriate standard in them (Hirschi et al., 2018). Human capital theory (Becker, 1975) advocates that individuals who invest the most in human capital (education, training, and experience) can be expected to show higher levels of work performance and obtain higher organisational rewards (Hassan, 2007). Accordingly, an individual's career progression and career success are contingent upon the quantity and

quality of human assets they bring to the labour market (Becker, 1964; Hassan 2007). It is these skills and experiences that individuals bring to their work that are then related to their compensation (Agarwal, 1981; Hassan, 2007). Just as human capital factors influence the performance of employees, greater personal attributes enable them to better perform their job. As a result, their pay should consequently and accordingly increase to compensate them for the additional amount of human capital required by their job (Hassan, 2007).

Empirical evidence supports the positive linkage between human capital variables and career success (Hirschi et al., 2018; Judge et al., 1995; Judge et al., 2010; Ng et al., 2005; Tharenou, 2001; Wayne et al., 1999). Wayne et al. (1999) stated that existing research had shown educational attainment to be positively related to managerial advancement (Tharenou, Latimer, & Conroy, 1994), salary progression (Bretz Jr & Judge, 1994; Stroh, Brett, & Reilly, 1992), and assessments of promotability (Sheridan, 1997). Job and organisation tenure have also been viewed as investments in human capital, because prior findings suggest that job tenure and organisation tenure are positively related to career outcomes (Judge & Bretz Jr, 1994; Judge et al., 1995; Powell and Butterfield, 1994, 1997; Stroh et al., 1992; Wayne et al., 1999). As such, the individuals with longer job and organisation tenure may have developed expertise in their positions and obtained valuable firm-specific experiences (Wayne et al., 1999). Training provided by the employer is another form of investment that can enhance an individual's human capital (Wayne et al., 1999). Tharenou et al. (1994) found that training and developmental opportunities positively related to managerial level and salary for both men and women (Wayne et al., 1999). Ng et al. (2005) went on to clarify that the majority of evidence suggests that human capital factors are the most commonly used predictors in the contest-mobility model. In summary, the contest-mobility norm indicates that the organisation rewards individuals who possess higher levels of human capital (higher educational levels, longer job tenure, longer organisational tenure, and more training).

Socio-demographic predictors of objective career success. Socio-demographic predictors of career success reflect individuals' demographic and social backgrounds and generally include gender, race, marital status, and age (Ng et al., 2005). Existing literature suggests that socio-demographic characteristics are often used as conditions to allocate sponsorship (Ng & Feldman, 2010b). For example, as a product of traditional gender and racial stereotypes, women and ethnic minority groups may be less likely to be chosen for career development opportunities (Ng et al., 2005). In a similar vein, marital status can also be used as a criterion for sponsorship as managers may view married employees as being more secure and responsible than their single counterparts (Ng et al., 2005). Ng et al. (2005) found that being married and age were positively related to career success, whereas being female and non-white are each negatively related to career success. All above-mentioned socio-demographic variables were found to be significant for predicting salary (Ng et al., 2005). As such, employees reported higher salary attainment if they were male, white, married, and older (Hirschi et al., 2018; Ng et al., 2005). Ng et al. (2005) also offer meta-analytic evidence showing that socio-demographics are more strongly related to objective (extrinsic) career success than subjective (intrinsic) career success. Interestingly, some of these socio-demographic indicators, such as gender, are mirrored in Australian society on the whole. For example, according to the Australian Bureau of Statistics (ABS), in the most recent reporting period (2017–2018), 63% of managers (Chief Executives, General Managers and Legislators) in Australia were male and 37% were female, illustrating a significant discrepancy, when gender is considered, in workplace leadership amongst managers in Australia (ABS, 2018). Perhaps because gender is easily observable, it impacts observable extrinsic outcomes more significantly than intrinsic career outcomes. A male may have extrinsic and observable career advantages, but perhaps this does not translate to more career satisfaction. Interestingly, Spurk et al. (2019) produced a recent, interesting, comparative

insight showing that socio-demographic factors accounted for 34% of the total explained variance in OCS. As such, it is reasonable to expect socio-demographic factors to have a significant influence on objective career attainments.

Outcomes of objective career success. Generally ignored in the literature is the role past OCS plays in one's current subjective experience of their career and satisfaction with it. As careers can be likened to a journey of transitions over one's working life (Hall, 2004; Sullivan, 1999; Super, 1980), there is an implicit understanding that what has already occurred will impact current and future career success (Feldman & Ng, 2007; Super, 1980). Stumpf and Tymon Jr (2012) believe that past career mobility, promotions, and salary change set the stage for future opportunities and affect the way professionals perceive themselves and are perceived by others. While Stumpf and Tymon Jr (2012) found that salary was positively associated with SCS outcomes, the influence of promotions on each one of the subjective career assessments had the strongest relationships. Taken together, OCS can result in SCS, specifically when considering the SCS outcomes of core sense of self and job satisfaction (Stumpf & Tymon Jr, 2012).

Subjective career success. SCS, or an individual's evaluation and experience of achieving personally meaningful career outcomes, such as career satisfaction, is another component of the larger construct of career success (Ng et al., 2005; Seibert, 2006; Shockley et al., 2016). Antecedents and outcomes of SCS will be discussed in the following sections.

Antecedents of subjective career success. Based upon the definition of SCS stated above, it is not unreasonable to deduce that constructs such as dispositional traits are more proximal to the (internal) evaluation of SCS than to the (external) attainment of OCS (Spurk et al., 2019). Psychological success outcomes (career satisfaction and commitment) quantify intrinsic/SCS, because they reflect one's own feelings and reactions to one's own career

(Hassan, 2007). Through the intrinsic view of success, the emphasis is on the person rather than the organisation (Hassan, 2007).

Spurk et al. (2019) conducted a systematic review of the antecedents of SCS and found that stable individual differences and “new career” concepts, such as boundaryless and protean career orientation, are key in understanding the attainment of OCS (Arthur et al., 2005; Hall & Chandler, 2005; Heslin, Vandewalle, & Latham, 2006; Ng et al., 2005; Spurk et al., 2019). More specifically, a focus on an individual’s work attitudes, career management, proactive behaviours, and stable personality characteristics (Big Five model) are most representative of the theoretical basis for explaining the attainment of SCS (Spurk et al., 2019).

Traditionally, and in the Ng et al. (2005) meta-analysis, organisational sponsorship and socio-demographic status were used to examine SCS using the sponsored-mobility perspective (Greenhaus et al., 1990; Turban & Dougherty, 1994). As such, I will now review the literature in regard to organisational sponsorship and socio-demographics.

Organisational sponsorship. Organisational sponsorship variables represent the extent to which organisations provide exceptional assistance to employees to facilitate their career development (Ng et al., 2005). These predictors include career sponsorship, supervisor support, training and skill development opportunities, and organisational resources (Ng et al., 2005). Career sponsorship refers to the degree to which senior-level employees provide sponsorship to lower-level employees that helps to enhance their careers (Ng et al., 2005; Ng & Feldman, 2010b). This element substantiates the sponsored-mobility perspective. Examples of career developmental support include training classes, leader-member exchange, and career mentoring (Kraimer, Seibert, Wayne, Liden, & Bravo, 2011). Kraimer et al. (2011) concluded that an employee’s historical participation in formal developmental activities and their individual exposure to developmental relationships is

positively related to their belief of organisational support for development. Developmental support, in turn, relates positively to job performance (Kraimer et al., 2011). Organisational resources do not directly represent sponsorship offered by an organisation, but organisation size can partially signal the volume of sponsorship resources an organisation has available to allocate to employees (Ng et al., 2005). Additional literature substantiates this view and identifies a sponsored-mobility model and organisational sponsorship as valid contributors to career success (Wayne et al., 1999). Spurk et al. (2019) further substantiate this by stating that the sponsored-mobility perspective (Turner, 1960) describes how established senior members of an organisation will often pay special attention to high-potential employees and provide sponsorship to them through special assignments, career support, and material resources. These resources will result in improved odds of career success (Spurk et al., 2019). As such, sponsored employees are more likely to both achieve OCS and experience SCS because of their higher levels of psychosocial support and autonomy (Spurk et al., 2019; Wu, Foo, & Turban, 2008).

Stable individual differences. Past reviews and literature acknowledge the role of stable traits in explaining SCS (Ng et al., 2005; Spurk et al., 2019). Stable individual difference variables represent dispositional traits, the most commonly used taxonomy of which being the Big Five (Costa & McCrae, 1992a) represented by Neuroticism, Conscientiousness, Extroversion, Agreeableness, and Openness to Experience (Ng et al., 2005). Because the Big Five are more proximal causes of one's sense of psychological well-being, they relate more strongly to SCS (Ng et al., 2005). Neuroticism is typically negatively related to career success because emotional instability and anxiety reduce job performance, hinder effective career management (Judge et al., 2010), and reduce the likelihood of career sponsorship (Ng et al., 2005). Conscientiousness is positively related to career success due to its positive relationship with job performance (Ng et al., 2005). Extroversion is often

positively related to career success because extroverted attributes such as being assertive, dominant, energetic, active, talkative, and enthusiastic are important for jobs requiring interpersonal interaction (Ng et al., 2005; Paleczek, Bergner, & Rybnicek, 2018).

Outcomes of subjective career success. Five types of outcomes for SCS (which may also be applied to OCS) were identified by Spurk et al. (2019) based on previous conceptual and empirical work within career success research (Abele, Hagmaier, & Spurk, 2016; Hall & Chandler, 2005; Korman, Wittig-Berman, & Lang, 1981; Stumpf, 2014). These five outcomes are withdrawal, career attitudes, well-being and health, reactions from the environment, and self-concept (Spurk et al., 2019). Withdrawal was referenced in 40% of studies, career attitudes in 36%, well-being and health in 24%, and reactions from the (work) environment in 16% (Spurk et al., 2019). Self-concept outcomes were represented in 8% of studies and were added as an additional category (Spurk et al., 2019). Overall, as suggested by Spurk et al. (2019), these findings suggest that research on career success has recently started to endorse the view that the attainment of career success is meaningfully related to other work and life outcomes.

Some of the variables that have been reviewed as predictors of career success in former work (e.g., Boehm & Lyubomirsky, 2008; Feldman & Ng, 2007; Ng et al., 2005; Ng & Feldman, 2014) may also be developed as outcomes of career success (career transitions and withdrawal, career agency, career attitudes, stress and coping, well-being, or work environment factors, and social reactions), implying reciprocal relations over time (Spurk et al., 2019). Despite this, relatively few have tested reciprocal relations involving career success (Gao-Urhahn, Biemann, & Jaros, 2016; Kammeyer-Mueller, Judge, & Piccolo, 2008; Praskova, Hood, & Creed, 2014; Spurk & Abele, 2014; Spurk et al., 2019; Stumpf, 2014).

A study by Sutin, Costa Jr, Miech, and Eaton (2009) in the field of personality psychology found that OCS, but not SCS, predicted a change in neuroticism and

agreeableness—but not in the other Big Five traits (Spurk et al., 2019). This finding infers that even stable traits might be changed by career success (Spurk et al., 2019). As such, OCS can be an antecedent to some stable traits.

Human Capital

Human capital is regularly included in discussions about personality, achievement, educational attainment, and career success (Becker, 1964; Choudhury, 2010; Judge et al., 1995; Judge et al., 2010). As stated by Becker (1964), human capital consists of the skills and knowledge that individuals acquire to enhance their potential productivity and success in the labour market. Human capital typically refers to individuals' educational, personal, and professional experiences that can enhance their extrinsic career outcomes (Judge et al., 1995; Judge et al., 2010). Human capital is commonly operationalised in terms of educational and training attainments and work experience (Choudhury, 2010). According to human capital theory, individuals make rational choices about whether or not they want to invest more time, effort, or money towards education, training, and/or experience. Under this principle, an employee would consider the advantages, disadvantages, costs, and potential rewards of obtaining more training and education when deciding whether or not to pursue those investments (Wayne et al., 1999).

Human capital is likely to be rewarded in the labour market because it is a signalling device to organisations (Singer & Bruhns, 1991; Spence, 2002; Strober, 1990). A high level of human capital signals to organisations that job applicants deserve to be hired because of their accumulated job-relevant knowledge (Ng & Feldman, 2010a). It also signals to organisations that potential employees have personal attributes desired by organisations, such as intelligence, diligence, and self-motivation (Ng & Feldman, 2010a). As a consequence, organisations are often willing to pay a premium wage to employees with high human capital investments or allocate additional resources to retain and develop them (Ng & Feldman,

2010a). Ng and Feldman (2010) focused on two forms of human capital: education and organisational tenure. Education is a broad and generalisable form of human capital investment and organisational tenure embodies a more specific form of human capital investment (Ng & Feldman, 2010a).

Antecedents of human capital. Antecedents of human capital include educational attainment, socioeconomic status (SES), job embeddedness, and LOC. The following discussion will examine these human capital antecedents.

Educational attainment. Traditionally, human capital scholars have sought to identify antecedents of educational attainment based on socioeconomic indicators, parental views of education, gender, and race (Black, Devereux, & Salvanes, 2005; de Haan, 2010; Hauser & Sewell, 1985; Kantarevic & Mechoulan, 2006; Manzoni, Härkönen, & Mayer, 2014; Powell & Steelman, 1993; Travis, 1995). For example, Blake (1981) suggests that children are significantly more motivated by parental attention, interaction, and encouragement than by passive environments of cultural and material advantage. Black et al. (2005) examined the relationship between parents' education and that of their children but found little causal relationship—with one exception being among mothers and sons; when mothers increase their educational attainment, their sons' education also increases (Black et al., 2005). There has been considerable attention paid to examining the precise causal determination of early motherhood on children's academic outcomes (Kantarevic & Mechoulan, 2006). Consequently, there is substantial literature that supports the finding that the age of the mother at childbirth is positively correlated with a child's years of education (Kantarevic & Mechoulan, 2006).

More recently, however, human capital scholars have shifted attention to exploring the impact that middle-level traits (like ambition), have on human capital outcomes (such as educational attainment; Judge & Kammeyer-Mueller, 2012). Judge and Kammeyer-Mueller

(2012) examined both the causes and consequences of ambition. In their study, they anticipated that higher levels of educational attainment would be an outcome of ambition (Judge & Kammeyer-Mueller, 2012). As the educational system is one of the primary mechanisms by which individuals achieve positive work rewards (Meyer, 1977), those who have ambitions to succeed in life will likely strive to achieve high levels of education (Judge & Kammeyer-Mueller, 2012). Supporting this ambition-education link, it has been found that students who have long-term ambitions, such as having a satisfying career and high social status, report higher education agency and obtain better grades (de Volder & Lens, 1982). Evidence also supports that education-specific ambitions measured in high school are associated with higher levels of education obtained later in life (Judge & Kammeyer-Mueller, 2012; Kim & Schneider, 2005). Kim and Schneider (2005) found that when adolescents had aligned ambitions, as measured by the agreement between their own educational expectations and their parents' educational expectations for them, they have a greater chance of attending a four-year college and of attending a selective four-year college than adolescents whose ambitions are not aligned with their parents'.

Socioeconomic status. Another antecedent of human capital is SES (Carolan & Wasserman, 2015; Davis-Kean, 2005; Eshelman & Rottinghaus, 2015). Low-income parents and less educated parents are more likely to express lower educational expectations for their children compared to parents of higher affluence (Davis-Kean, 2005; Carolan & Wasserman, 2015). Family social background is also linked to children and adolescents' school performance and achievement in that young people raised in more affluent families generally outperform their less-affluent peers on every standard measure of academic achievement and engagement (Huston & Bentley, 2010; Reardon, 2011; Sirin, 2005). There is ongoing debate about whether SES relates mainly to economic position, to social status, or to prestige (Bradley & Corwyn, 2002), which has led to some definitional discussion in the literature

with terms such as SES, social class, and economic background often being used interchangeably (Eshelman & Rottinghaus, 2015; Liu, Ali, Soleck, Hopps, & Pickett Jr, 2004). Despite this, it is generally agreed that an essential component of SES is access to resources (capital; Eshelman & Rottinghaus, 2015). Eshelman and Rottinghaus (2015) examined the strength of SES and perceived social class as independent predictors of educational and occupational aspirations and expectations of high school students and found that SES made a significant and substantial contribution to explaining occupational aspirations and expectations.

Job embeddedness. Ng and Feldman (2010b) examined the impact that job embeddedness had on changes to human capital development behaviours within a broader goal of exploring whether embeddedness may hurt, rather than benefit, an individual's career over time. Job embeddedness is defined as the combination of three organisational forces that keep people in their current jobs (Mitchell, Levin, & Krumboltz, 1999): fit (the extent to which an individual's abilities match organisational requirements and an individual's interests match organisational rewards), links (the number of ties individuals have with other people and activities at work), and sacrifice (what people would have to give up if they left their organisations). Ng and Feldman (2010b) anticipated that when employees felt highly embedded, they would engage in less human capital development activities, as they would have little desire to move elsewhere. However, contrary to prediction, they found that organisational embeddedness is unrelated to subsequent changes in human capital development behaviour.

Locus of control. People who score high on internal LOC attribute responsibility for their actions to themselves, while those scoring high on external LOC attribute their successes and failures to external factors, such as luck or coincidence (Rotter, 1966; Weiner, 1979). An individual with an internal control orientation believes that reinforcement is

contingent on his or her own behaviour whereas an individual with an external control orientation believes that reinforcement is contingent on luck, chance, or powerful others (Rotter, Chance, & Phares, 1972). LOC orientation, a personality trait that appears to influence human behaviour across a wide spectrum of situations, relates to learning and achievement (Lefcourt, 1976; Rotter et al., 1972).

Although there are some studies that did not show LOC to be predictive of academic performance (Bozorgi, 2009; Brenenstuhl & Badgett, 1977; Watkins, 1987; Wigen, Holen, & Ellingsen, 2003), literature reviews and meta-analytic examination of research published between 1983 and 1994 show LOC to be a significant predictor of academic achievement (Findley & Cooper, 1983; Kalechstein & Nowicki Jr, 1997). More recently, research provides further indication that LOC positively correlates to academic success (Gifford, Briceño-Perriott, & Mianzo, 2006) and that external LOC is more likely to result in lower grades (Wood, Saylor, & Cohen, 2009). Flouri (2006) found that an internal LOC was significantly related to educational attainment in both men and women. Thus, LOC may function as an antecedent to human capital. Interestingly, if a dispositional trait like LOC has been shown to significantly impact a human capital outcome like educational attainment, it broadens the discussion in regard to antecedents of human capital in an otherwise somewhat narrow landscape. As such, it is feasible that other dispositional traits, like ambition, may exist as antecedents to human capital and warrant further consideration and exploration.

Outcomes of human capital.

General mental aptitude. Judge et al. (2010) examined human capital as a mediator between general mental aptitude (GMA) and extrinsic career success. They found that as GMA increases, the impact of human capital on extrinsic career success also increases. In contrast, Judge et al. (2010) also found that, when examining training, human capital mediation was not significant even under conditions where GMA was high. In short, their

findings show that GMA is important both to between-individual differences in career success and to changes in career success over time and as a function of the human capital mediators.

Career success. Existing literature, including Ng and Feldman's (2010) work, predominantly identifies educational attainment as a primary antecedent of both intrinsic (career satisfaction) and extrinsic (pay, occupational prestige) career success (Choudhury, 2010; Judge et al., 2010; Ng & Feldman, 2010a; Wayne et al., 1999; Zangelidis, 2008). Educational attainment effects are viewed through the lens of two primary theoretical frameworks: the contest-mobility model and the sponsored-mobility model, as discussed earlier (Ng & Feldman, 2010a; Wayne et al., 1999).

Further, human capital theory is based on two major assumptions (Becker, 1964; Strober, 1990): the first assumption being that human capital will improve work skills and the ability to be productive; the second being that earned income reflects the productivity of workers (Ng & Feldman, 2010a). Ng and Feldman (2010a) built on and expanded this theory by showing that human capital investments promote the development of desirable personal attributes (cognitive ability and conscientiousness) which in turn lead to higher productivity and earned income.

Judge et al. (1995) determined that level of education was the human capital attribute that had been most heavily researched. Research from the labour economics and careers literatures concluded that returns from educational attainment in terms of pay and promotions were significant (Jaskolka, Beyer, & Trice, 1985; Pfeffer & Ross, 1982; Psacharopoulos, 1985; Whitely, Dougherty, & Dreher, 1991). Thus, Judge et al. (1995) predicted a positive relationship between level of education and OCS. Judge et al. (1995) also determined that, while a great deal of information existed concerning the relationship between quantity of education and career success, less was known about the effects of educational quality on

career outcomes. Further, descriptive studies suggested that successful executives were disproportionately graduates from well-regarded universities (Swinyard & Bond, 1980; Warner & Abegglen, 1955). As such, Judge et al. (1995) explored the influence of educational quality on executive career attainment. They inferred that the quality of the school attended, in terms of research and instruction, resources, and quality of students, would provide a future executive with scholastic capital. Thus, the quality of the university from which the executive earned his or her highest degree should positively predict objective success (Judge & Zapata, 2015). They found that the quantity of education made a material difference in executive earnings, such that over the course of an average career in their sample (20 years), the estimated cumulative earnings gap between executives with a graduate degree and those with an undergraduate degree was nearly \$150,000 (Judge & Zapata, 2015). Interestingly, they also found that university quality and prestige related substantially to financial success (Judge & Zapata, 2015).

Job and organisational tenure are also viewed as human capital investments. Prior research indicates job and organisation tenure are positively related to career outcomes, such as advancement and salary progression (e.g., Judge & Bretz Jr, 1994; Judge et al., 1995). Tharenou et al. (1994) found that training and developmental opportunities are positively related to managerial level and salary for both men and women. Becker (1962) and Becker and Tomes (1986) proposed that it is this investment in human capital that explains inequality in income distribution. Thus, making organisational level investments for employees in education and training is important to improving an individuals' earnings and enhancing their career success (Becker & Tomes, 1986).

Career path. Harris, Pattie, and McMahon (2015) examined the role that human capital plays in the context of career paths. A career path indicates that careers have a progression and involve a series of moves that individuals advance through in order to further

their career (Cappellen & Janssens, 2005; Harris et al., 2015). According to Harris et al. (2015) employers value domain-specific human capital and, therefore, it is important for individuals to have the capital valued by the career in order to advance in the career (Iellatchitch, Mayrhofer, & Meyer, 2003). Throughout one's personal, educational, and professional development, individuals will develop their portfolio of human capital that can be used to develop their career (Harris et al., 2015; Iellatchitch et al., 2003). As such, individuals make investments in their education and training in order to develop the human capital necessary for a career and to help them advance within this career (Becker, 1964; Harris et al., 2015; Wright & McMahan, 2011). The study by Harris et al. (2015) found that human capital was positively related to performance in the second stage, and this performance was then signalled and visible to the labour market—thus indicating that individuals have the human capital (or have enhanced their human capital) necessary to be successful in their career, which in turn increases their value within the labour market, and therefore helps their advancement.

Frederiksen and Kato's (2017) recent study used Danish registry data to provide new and robust evidence with external validity on the importance of the breadth of human capital for top management appointments. As discussed above, individuals obtain general human capital through formal schooling and attain educational milestones. However, human capital acquisition does not stop once the degree is finished (Frederiksen & Kato, 2017). Workers may acquire both general and firm-specific human capital through learning by doing, or on-the-job training. It is possible that workers may go through rather extensive on-the-job training, experience diverse roles, and become a “generalist” and, consequently, continue to develop their firm-specific human capital (Frederiksen & Kato, 2017). Frederick and Kato's (2017) data-analysis acknowledges both internal promotion and external recruitment as means to achieve top management appointments. Further, this study determines that the

breath of human capital is more important in mature firms (Frederiksen & Kato, 2017).

There are fewer studies that focus on the importance of the breadth of human capital acquired through on-the-job training, as opposed to the quantity or quality of formally acquired human capital (Frederiksen & Kato, 2017). However, Gibbons and Waldman (2004) and Lazear (2005, 2012) provide important exceptions (Frederiksen & Kato, 2017).

Social Capital

Social capital is a concept that emerged at the beginning of the twentieth century and was defined by Hanifan (1916) as “those tangible substances that count for most in the daily lives of people: namely good will, fellowship, sympathy, and social intercourse among the individuals and families who make up a social unit” (p. 130). From here, two streams of social capital research were developed by sociologists Pierre Bourdieu and James S. Coleman (Kikuchi & Coleman, 2012). While both sociologists refer to social capital as the “currency that results from the ‘social networks’ that humans enjoy and from the ‘resources’ gleaned from relationships within such networks” (Kikuchi & Coleman, 2012, pg. 188), they approach the construct from different ideological paradigms: Bourdieu’s perspective ascending from Marxist traditions, and Coleman’s perspectives arising from rational choice models and theories grounded in community structures (Kikuchi & Coleman, 2012). From the Bourdieu lens, (1986), social capital is impossible to disentangle from economic capital, which, in itself, underlies social relationships (Kikuchi & Coleman, 2012). Thus, under Bourdieu’s (1986) perspective, capital’s distribution “represents the immanent structure of the social world” and hence its use, availability, currency, and impacts are constrained because capital is distributed unequally, favouring some individuals more than others because of their socioeconomic standing (p. 242). Consequently, components of social capital become institutionalised (Kikuchi & Coleman, 2012). As such, Bourdieu (1986) defines social

capital as “an aggregate of actual or potential resources” that arise from “a durable network” of institutionalised relationships of mutual acquaintances (p. 248–249).

Coleman (1988) integrated human agency into his views of social capital, or a “resource for action” (p. 95). Coleman’s (1988) “social capital” runs parallel to the concepts of financial capital, physical capital, and human capital, but is embodied in relations amongst persons. This mirrors his theoretical strategy that involves use of the paradigm of rational action (Coleman, 1988). Coleman (1990) states that an individual’s social capital is his or her network of social connections that assist him or her functioning in society. Social capital, within the lens of career theory, fits the “knowing whom” dimension of social relationships of the employees (Arthur, Claman, & DeFillippi 1995; Parker, Khapova, & Arthur 2009; Singh, Ragins, & Tharenou 2009). According to Coleman (1990), social capital is created when the relations among people change in ways that facilitate influential action, hence social capital is defined by its function. Coleman (1988) believes that social capital consists of a variety of different entities, with two commonalities: they consist of some aspect of social structures, and they enable certain actions of actors within the structure. Hence, social capital is productive and makes the achievement of certain outcomes possible. Similar to human capital, social capital may be specific to certain activities and, similar to other forms of capital, Coleman (1988) believes social capital is productive and makes possible the achievement of certain ends that would not be possible without it. Coleman (1988) goes on to identify three forms of social capital: obligations and expectations (which depend on trustworthiness of the social environment), information-flow capability of the social structure, and norms accompanied by sanctions. While physical capital is fully tangible and materially observable, and human capital is less tangible as it is embodied in the skills and knowledge acquired by an individual, social capital is even less tangible, as it exists solely in the relations among persons (Coleman, 1988).

Bourdieu's (1986) definition differs from Coleman's because he believes that such resources are linked to networks entrenched in social class systems (Kikuchi & Coleman, 2012). In short, Bourdieu believes that social capital represents a struggle over resources, and consequently, economic and cultural struggles. Both perspectives, however, refer to social capital as the "currency that results from the *social networks* that humans enjoy and from the *resources* gleaned from relationships within such networks" (Kikuchi & Coleman, 2012, pg. 188).

According to Lin, Cook, and Burt (2001, p. 19), the premise behind social capital is quite straightforward, in that it is an "investment in social relations with expected returns in the marketplace". This definition runs parallel to both Coleman and Bourdieu's renditions of social capital. In short, social capital emerges through people's interactions and networking as a means to produce profits (Lin et al., 2001). Lin et al. (2001) believe there are four core explanations as to why social capital enhances the outcomes of actions: the flow of information is facilitated, social ties may exert influence on the agents who play a critical role in decisions, social ties and their acknowledged relationships to the individual may be conceived by the organisation or its agents as certifications of the individual's social credentials, and social relations are expected to reinforce identity and recognition. These four elements—information, influence, social credentials, and reinforcement—may be the catalysts to explain why social capital produces instrumental and expressive outcomes over and above personal capital, such as economic or human capital (Lin et al., 2001).

Despite these similarities to other forms of capital, social capital differs from them since it is "embodied in relations among persons" (Coleman, 1988, p. 118). Social capital provides a particular kind of resource with two common elements: it contains aspects of social structures, and it facilitates certain actions within the structure (Lin, 2000). Like other

forms of capital, social capital is productive, and therefore generates both economic and non-economic results (Lin, 2000).

Antecedents of social capital.

Social networks. Social capital derives from the changes in the relations among persons that facilitate action (Lin, 2000). Like physical capital and human capital, social capital facilitates productive activity. This can be demonstrated in a group where there is extensive trustworthiness and extensive trust; this group will be able to accomplish much more than another group that exists without that trustworthiness and trust (Lin, 2000). For example, if a group has worked together successfully before and trusts one another, their accomplishments will be superior to a group that has initially met and does not have an existing track record of trust and experience. In this way, social capital enables productivity.

Social capital is often conceptualised in terms of network structure and social resources (Seibert et al., 2001). Network structure in regard to social capital advises that “a cohesive network conveys a clear normative order within which the individual can optimize performance; whereas a diverse, disconnected network exposes the individual to conflicting preferences and allegiances within which it is much harder to optimize” (Podolny & Baron 1997, p. 676). Hence, strong social networks will enable common identities and will result in the behaviour of their members to be consistent with the network’s behaviour (Haynie, 2001). Social resources are defined as the wealth, status, power, as well as social ties of those persons who are directly or indirectly linked to an individual. Lin, Vaughn, and Ensel (1981) proposed that access to and use of social resources through one’s network would afford an essential transition between family background and education and SES achievement, and the study of Lin, Vaughn & Ensel (1981) determined the significant and independent effect of social resources on occupational achievement.

Interestingly, a common theme between studies on social capital is “relationships with others”, defined as a tie among individuals within a community—neighbours, acquaintances, and friends (Kikuchi & Coleman, 2012). These relationships become an essential element of social capital: relationships that bind individuals within families, groups, organisations, or institutions (Kikuchi & Coleman, 2012). To this point, Coleman’s (1988) study found that social capital both inside and outside the family showed evidence of considerable value in reducing the probability of students dropping out of high school. More generally, this concept is commonly referred in the literature as “social networks” (Beaudoin & Thorson, 2004, 2006; Putnam, 2000), “social connectedness” (Moy, Scheufele, & Holbert, 1999; Zhang & Chia, 2006), “social relations” (Beaudoin, 2007; Coleman, 1990; Shah, Cho, Eveland Jr, & Kwak, 2005; Shah, McLeod, & Yoon, 2001) and “social relationships” (Coleman, 1988).

Social networks, which ultimately comprise and manifest into social capital are measured according to neighbourliness, social support, context, size of network, improving community, public attendance, civic participation and engagement, association membership, and residential stability. Kikuchi & Coleman (2012) acknowledge these components of social networks but argue that the transactional questions of social relationships expose underlying dimensions of varied intensity that intersect with qualities of formality and informality. Hence, Kikuchi and Coleman (2012) assert such attributes impact the level of engagement and the strength of ties amongst and between individuals and their communities, and thus impact social capital.

Inequality of social networks. Generally speaking, individuals tend to associate within groups of similar socioeconomic characteristics (Lin, 1982). Social capital becomes unequal when a social group is anchored at a relatively disadvantaged socioeconomic position (Lin, 2000). Conversely, networks that are resource-rich are characterised by

richness in quantity as well as in resource heterogeneity (Campbell, Marsden, & Hurlbert, 1986; Lin, 1982, 2000). Members of resource-rich networks benefit from access to information from and influence in diverse socioeconomic strata and positions (Lin, 2000). Based on this reasoning, members of a network comprised of individuals with certain positive characteristics, such as individual and collective high levels of ambition, would embrace and benefit from high levels of ambition. In contrast, members of networks that are resource-poor share a more restricted range of information and influence (Lin, 2000). Using the above example, networks comprised of members with low levels of ambition would result in a network of lower influence and accomplishment. As such, the resource composition of a social group will impact the amount and influence of social capital. This inequality will directly impact the quality of an individual's social capital.

Gender. The social networks and embedded resources of females and males are significantly different (Lin, 2000). Moore (1990) demonstrates that men's networks are comprised of fewer kin and more nonkin, including fewer neighbours, but more co-workers, advisors, and friends. However, women's networks consist of a larger proportion of kin and fewer different types of nonkin (Lin, 2000). Campbell and Rosenfeld (1985) found that males had larger networks than females. Similarly, McPherson and Smith-Lovin (1982) showed that men typically belong to larger organisations than women in similar categories, and that men were located in larger core organisations related to economic institutions. In contrast, women were located in smaller peripheral organisations that were more focused on domestic and community affairs (Lin, 2000). Beggs and Hurlbert (1997) found that males are likely to be affiliated with associations that mostly consist of male members, while Brass (1985) found that women were not well integrated into men's networks and that women whose immediate work groups include both men and women were exceptions (Lin, 2000). Part of the gender differential in network diversity and size can be explained by the fact that

males and females participate in organisations with different embedded resources (Lin, 2000). Son and Lin (2012) found that males benefited more than females from using cross-gender contacts and, more specifically, males realised higher SES positions through female contacts. However, Son and Lin (2012) also found that females did not achieve as much advantage from cross-gender contacts.

These gender-based differential associations highlight structural constraints and show that society delegates childrearing to females in different structural positions in terms of flow of information and other resources in social networks (Munch, McPherson, & Smith-Lovin, 1997). In contrast, having a child had no statistically significant effect on men's network size, despite it having a significant negative effect on women's (Lin, 2000). More specifically, women whose youngest child was aged three or four had even significantly smaller networks than their counterparts with adult children (Lin, 2000). Thus, the effect of childrearing on network size is both significant and gendered (Lin, 2000).

Race. Racial and ethnic groupings are shown to indicate inequality in social capital (Lin, 2000). A study by Martineau (1977) analysed a survey of an 85% black neighbourhood in South Bend, Indiana. Martineau (1977) found that blacks had a higher rate of informal ties with relatives (78%), friends, and neighbours. Consistent with these findings, Marsden (1988) found that whites had the largest networks (mean size 3.1), while blacks had the smallest (mean size 2.25), and Hispanics/others were intermediate. Gender diversity was highest within the whites' network even when kin/nonkin composition is controlled for (Marsden, 1988). It was also discovered that network diversity and size decreased from whites to Hispanics, and whites to blacks (Marsden, 1988).

Interestingly, hierarchical differentiation remains across all ethnic and racial groups (Lin, 2000). For example, black elites developed their social ties through participation in churches and social clubs. Members of the black upper class comprise predominately

professionals and well-to-do businessmen who have higher education, created a closed social world of their own, and ultimately developed their social capital (Drake, 1965). Thus, is it important to consider the influence of race on social capital dynamics.

Outcomes of social capital. Social capital can provide significant advantages for employees in their careers (Adler & Kwon, 2002), as strong professional networks can provide access to information, resources, and career sponsorship (Seibert et al., 2001). These resources can, consequently, translate to increased educational attainment, salary, promotions, and career satisfaction (Seibert et al., 2001).

Educational attainment. Loury (1977), an economist, was one of the first authors to identify the relationship between life successes and various forms of capital. Loury (1977) claimed that the quantity of resources we can invest in our development (e.g., level of education) depends significantly on our social background. Extensive research reveals that an individual's educational achievements are related to various forms of capital: social, economic, and cultural (Coleman, 1982, 1988; Doolan, 2009; Eng, 2009; Sullivan, 2001). Pishghadam & Zabihi (2011) go onto to demonstrate that individuals who have more access to these forms of capital demonstrate greater educational achievements. Parcel & Dufur (2001b), Pishghadam and Zabihi (2011) and White and Glick (2000) show there is considerable empirical evidence that children benefit from the social connections that parents have with others such as neighbours, school personnel, and work colleagues (Crosnoe, 2004; Dufur, Parcel, & McKune, 2008; Johnson, Crosnoe, & Elder Jr, 2001; Parcel & Dufur, 2001a, 2001b). These connections exemplify bridging social capital which tells us that the stronger the connections are, the greater are the resources to which children have access (Parcel & Dufur, 2001b; Pishghadam & Zabihi, 2011; White & Glick, 2000). The model offered by Lin, Ensel & Vaughn (1981) asserts that an individual's occupational status will depend primarily on his/her education: this educational attainment will primarily depend on his/her

family background. A corollary of this belief states that an achieved status, such as education, “induces variation in occupational status that is largely independent of the initial status” (Lin, Ensel & Vaughn, 1981, p. 1164). Different levels of social capital can be contributors to educational success, which is produced in the networks and connections of families that the school provides (Rogošić & Baranović, 2016). For example, social capital encourages educational success in the form of the school climate and the values that motivate students to achieve higher goals (Acar, 2011). As such, a student’s development is strongly influenced by social capital in the school, community, and family (Acar, 2011). The study of Lin, Vaughn & Ensel (1981) concludes that social resources’ role in transferring the individual from the initial status of family environment to the achieved work status endures throughout his/her socioeconomic life.

Much of the research on the link between social capital and educational achievements is anchored in either Coleman’s (1988) or Bourdieu’s (1986) theoretical foundations, discussed above. Numerous authors base their research on interpretations and outcomes that are a combination of both these approaches (Ho, 2003; Pishghadam & Zabihi, 2011). Coleman’s theory of rational choice believes social capital is a promoter of individual action that results in social mobility (Rogošić & Baranović, 2016). As such, individuals invest in their relationships with others supposing that they will benefit from these investments (Rogošić & Baranović, 2016). Individuals calculate and determine which actions will be taken with regard to the quality and quantity of the social relationships in which they are involved (Rogošić & Baranović, 2016). Coleman’s description of social capital (1988) transcends the boundaries of individual social capital and becomes a characteristic of the community (institution, organisation). As such, social capital can be measured on the level of educational institutions (e.g., schools, universities) that contribute to ultimate education attainment (Rogošić & Baranović, 2016).

Bourdieu's (1986) perspective on social capital is an amalgamation of current or potential resources related to existing permanent networks, which are based on institutionalised relationships of interpersonal respect and acceptance (Rogošić & Baranović, 2016). An individual can use relationships with other individuals in order to achieve a goal, such as educational attainment (Bourdieu, 1986). Bourdieu's analysis of social capital and its influence on educational achievements is best understood by examining his broader theory of capitals (cultural and economic) and the concept of field and habitus (Rogošić & Baranović, 2016). As discussed earlier, according to Bourdieu (1986), the foundation of all capitals is economic capital, as a root source and consequence of possessing social and cultural capital. Interestingly, Bourdieu views quality relationships within the family as cultural capital, not social capital (Rogošić & Baranović, 2016). According to Bourdieu, social capital includes the totality of resources that originate from belonging to groups beyond the family, allowing all members to use the collective capital (Rogošić & Baranović, 2016). The difference between Bourdieu and Coleman is evident because Bourdieu finds parental education to be an aspect of cultural capital, while Coleman sees it as a measure of the human capital of the family (Rogošić & Baranović, 2016). Further, Bourdieu's approach to social capital does not include the social networks that are accessible to individuals as members of particular organisations (schools, colleges; Rogošić & Baranović, 2016).

Despite these differences in theoretical approach, Coleman, Bourdieu, and modern scholars who adopt either or a combination of their foundational approaches, share the similar conclusion that the educational achievement outcomes of individuals are related to social capital (Coleman, 1982, 1988; Doolan, 2009; Eng, 2009; Sullivan, 2001).

Career success: salary, occupational prestige, and career satisfaction. Studies consistently show that social capital is a major contributing factor to career success (de Janasz and Forret, 2008; Seibert et al., 2001). Forret (2006) found that networking (proactive

attempts by individuals to develop and maintain relationships with others for the purpose of mutual benefit in their work or career) will improve individuals' social capital by influencing the size of, the strength of their relationships within, the pattern of relationships within, and the resources accessible from within their social network. Hence, developing relationships with high-status individuals can provide valuable career outcomes, such as salary progression and occupational status (Forret, 2006). Lin, Ensel, and Vaughn (1981) found that the quality and status of one's contacts had a strong positive effect on the prestige of one's attained job.

Networking and building social capital are related to career outcomes of managers such as salary progression (Forret & Dougherty, 2004; Forret, Turban, & Dougherty, 1997; Gould & Penley, 1984; Luthans, Hodgetts, & Rosenkrantz, 1988; Michael & Yukl, 1993). Seibert et al. (2001) first unveiled findings that strongly suggested the relevance of integrating social capital theory with careers research. Prior to this, research solely examined the influence of social capital on career success variables such as promotions (Brass, 1984; Burt, 1992). Similarly, the majority of the careers literature had not included social capital as an antecedent of career success (Judge & Bretz Jr, 1994; Judge et al., 1995; Wayne et al., 1999). However, Seibert et al. (2001) merged the literatures on social capital and careers and added the contribution of examining social capital through mediating variables. Their study found that social capital resources (information, resource access, and sponsorship) mediated the relationships between social capital variables and career success outcomes—like salary and occupational prestige (Seibert et al., 2001). Seibert et al. (2001) incorporated both objective and subjective measures of career success and provided results to incentivise future researchers to consider social capital as a key variable. This was done through their findings that network structure was related to social resources, and three network benefits (access to information, access to resources, and career sponsorship) mediated the effects of social resources on career success (Seibert et al., 2001). Higgins (2000) examined the connection

between an individual's relationships with their mentors and the impact qualities of that relationship had on work satisfaction. She found that, in addition to individual-level factors such as race and gender, the composition and quality of an individual's early-career developmental mentor relationships are related to his or her work satisfaction (Higgins, 2000). More specifically, Higgins' (2000) study demonstrated that both the number of developmental relationships an individual has early in his or her career and the amount of career and psychosocial help he or she receives are positively related to the individual's work satisfaction.

The prior section has discussed the construct of social capital in detail in regard to its definitions, interpretations, and applications. Antecedents of social capital were explored, and included social networks, gender, and race. Outcomes of social capital were also discussed and included educational attainment and career success, both extrinsic and intrinsic.

The discussed predictors of career success (ambition, human capital, and social capital), as well as the predominant predictors in the careers literature, assume control and agency. The present study endeavours not only to understand the influence of the agentic on career success, but also the role of the non-agentic—such as luck. As such, this thesis will now introduce and discuss in detail the non-agentic construct of luck and how it may apply to the career success discussion.

Luck

Some past philosophers call luck a “curious concept”, while others expand on this and add “treacherous” (Barrett, 2006). Still others, such as Dennett (1984), identify a need to look closely at luck, in order to get a bearing on the nature and scope of responsibility (Barrett, 2006). Luck also bears on rationality and, as Dennett points out, people often view

luck as a “projectable property of people or things” (Barrett, 2006; p.73. Such beliefs often inform predictions about future events (Barrett, 2006).

Luck has been robustly discussed in the philosophy literature yet left out of most mainstream careers research. Pritchard (2014) states that philosophers who have theorised about luck have typically considered the notion using three types of conditions: (1) chance conditions (accidentality), (2) lack of control conditions (there not being a basic action that the lucky agent could perform which she knows would bring about the lucky event), and (3) significance conditions (the lucky agent being able to ascribe significance to the lucky event if she were availed of the relevant facts). Pritchard (2014) goes on to explain that numerous definitions of luck result from combinations of the significance, chance, and lack of control conditions. Yet, some scholars believe that all three types of conditions are necessary for luck (Pritchard, 2014). There are still others who omit the chance condition, as well as alternative accounts that include neither chance nor lack of control conditions (Pritchard, 2014). It is worth noting that many commentators think that the significance condition is necessary for luck, although this point has recently been disputed (Pritchard, 2014).

Ma (2002) determines luck to be a non-trivial determinant of performance. Further, Ma’s (2002), as does the present study, defines pure luck “as defying human action and intention, has no purposeful control or intention, and is not controllable at all” (p. 546). Pure luck results from a combination of chance, lack of control, but does not always assign significance. An example of pure luck is a farmer whose land happens to be more fertile than that of its neighbours’, thus conferring advantage in productivity (Ma, 2002). Another example of pure luck is an owner of farmland who buys the land solely for the fertility of the soil. This farmer unexpectedly finds oil or reserves of other precious natural resources underneath their land. These examples illustrate the concept of pure luck in that these situations cannot be created proactively, deny human action and intention, and are not

controllable (Rumelt, 1984, 1987; Ma, 2002). Conversely, Ma (2002) defines prepared luck as being beyond pure luck, which is not controllable at all. Factors that contribute to prepared luck are mere opportunities or threats upon which one can act (Ma, 2002). Whether a particular firm is lucky or not depends on its particular position, endowment, capabilities, as well as its action at the time (Ma, 2002). Examples of these factors within a business context are unique historical events, changes in social cultural trends, breakthroughs in technology, shifts in customer tastes and demand, governmental regulation or deregulation, or private or asymmetric information (Ma, 2002). Whether a particular firm is lucky or not depends on its “preparation” (e.g., particular position, endowment, capabilities, as well as action at the time; Ma, 2002).

Another definition of luck lies within the concept of constitutive luck. Constitutive luck is defined by the Stanford Encyclopedia of Philosophy as “luck in “who one is, or in the traits and dispositions one has” (Nelkin, 2019, para. 20). Who we are, in part, is determined by our genes, peers, our care-givers, and other environmental factors (Morris, 2015). Hence, since we have no control over these factors, who we are is at least largely a matter of luck (Morris, 2015). Taken further, Morris (2015) would believe that, since our genes, care-givers, peers, and other environmental influences contribute to making us who we are, and because we do not have control over these factors, who we are and how we behave is largely a matter of luck. Based upon this concept, it becomes evident that traits, dispositions, and environmental factors, such as SES at birth, gender at birth, and parental occupation, need to be considered in conceptualising luck. While there is value in including constitutive luck into the discussion, it also primarily focuses on distal (family SES) and dispositional (extraversion) luck factors and neglects to acknowledge luck factors that may occur in the career development process and outside of distal, dispositional, and environmental influences. As Morris (2015) states, constitutive luck is the very constitution of a person:

luck in who she is. This form of luck ignores that there can be situational and outside luck events that can impact one's career, instead inferring that because a person is who she is, she will or not will not have career success. This perspective ignores that agentic efforts, such as obtaining educational attainment, or luck events, such as receiving a financial windfall or developing a relationship with a person who unexpectedly champions your career, can influence the outcome of a career. It also does not provide an explanation for a person who is born an introvert but develops skillsets to become more extraverted and socially engaged. This development of extraverted characteristics would be omitted within a perspective based upon constitutive luck. As such, the present thesis will embrace and focus on pure luck and the impact it may have on career outcomes.

Chance versus luck. Chance events have been included in the career development literature for some time, but there has been limited empirical research on the topic (Bright, Pryor, & Harpham, 2005). The core concept of chance has been written about exclusively and referred to in the literature as chance (Roe & Baruch, 1967), serendipity (Betsworth & Hansen, 1996), happenstance (Miller, 1983), and synchronicity (Guindon & Hanna, 2002). Within the literature, chance events generally relate to “unplanned, accidental, or otherwise situational, unpredictable, or unintentional events or encounters that have an impact on career development and behaviour” (Rojewski, 1999, p. 269).

Most of the research suggests that an individual's career decision making is considerably influenced by chance events (Betsworth & Hansen, 1996; Bright, Pryor, & Harpham, 2005; Hart, Rayner, & Christensen, 1971; Roe & Baruch, 1967; Williams et al., 1998). Hart et al. (1971) studied the career histories of 60 men and the degree of planning, preparation, and chance involved in occupational entry at professional, skilled, and semiskilled levels and found that the vocational histories of skilled and semiskilled workers were quite often influenced by chance encounters (Bright, Pryor, & Harpham, 2005).

Conversely, for the professional workers, chance had much less influence because they relied on planning and preparation (Bright, Pryor, & Harpham, 2005). Betsworth and Hansen (1996) found that of their sample of older adults, 63% of men and 58% of women indicated that their careers were influenced by serendipitous events. Williams et al. (1998) studied the contextual factors surrounding chance events and the perceived impact of chance events on the career choices of academic women in counselling psychology and found that at least one serendipitous event had a significant effect on each of the 13 women (Bright, Pryor, Wilkenfeld & Earl, 2005). The existence of inconclusive research findings with respect to the extent of influence of chance events may be due to the way people perceive their past because of attributional bias (Bright, Pryor & Harpham, 2005). Thus, chance may be underrepresented as participants may have been influenced by chance events, but did not report them as such (Bright, Pryor & Harpham, 2005).

Grimland, Vigoda-Gadot, and Baruch (2012) conducted a study that looked at how work attitudes mediate the relationships between social capital, perception of organisational politics, protean career attitude, and career success, and moderated by chance events, as defined by Bright, Pryor & Harpham (2005). Their findings suggest that chance events may affect the relationships with the external facet of career success (position in organisational hierarchy) and less with the subjective facet of career success (professional vitality) by interacting with positive and negative social capital and the employee's perception of organisational politics. Williams et al. (1998) conducted a study of consensual qualitative research to investigate the impact of chance events on the career choices of prominent academic women in counselling psychology and to examine the contextual factors surrounding the chance events. Their results suggest that chance events impacted career choices most often by changing women's career paths altogether or by altering their self-concepts. Their results also suggest that both internal characteristics and external factors

helped women take advantage of chance opportunities. Additionally suggested is the importance of incorporating serendipity into our existing understanding of career development (Williams et al., 1998). Interestingly, the most common type of chance event in this study involved someone else's intervention (Williams et al., 1998). Because the women in the study generally defined serendipity as including events that were "unplanned by them", this type of chance event was consistent with their view of unexpected and unanticipated events.

It is also interesting to note that the study of Williams et al. (1998) used the terms of "chance" and "serendipity" interchangeably, as defined above (Williams et al., 1998). In the broader serendipity literature, serendipity is defined as independent to chance and luck (Denrell, Fang, & Winter, 2003; Dew, 2009; Merton & Barber, 1994; Van Anandel, 1994). Van Anandel (1994, p.631) defines serendipity as the accidental discovery of something that, in retrospect turns out to be valuable, is "the art of making an unsought finding" (Van Anandel, 1994, p. 631). Denrell et al. (2003, p. 978) defines serendipity as "effort and luck joined by alertness and flexibility". Dew (2009, p.735) defines it as "search leading to unintended discovery". Serendipity thus differs from both chance and luck because they lack the intention of unanticipated finding. Further, according to Denrell et al. (2003), serendipity incorporates luck with other forces like effort and alertness, and consequently distinguishes itself as a unique construct.

As stated, the majority of studies on luck and chance in the recent psychological literature have taken place as "attribution research". Within this perspective, luck is perceived as an external, unstable, and uncontrollable cause which should have little effect on future expectations (André, 2006; Weiner, Heckhausen, & Meyer, 1972). Weiner et al. also introduced the possibility that luck may be thought of as a property of a person (lucky or

unlucky) without experimentally validating this distinction (André, 2006; Weiner et al., 1972).

Rotter's social learning theory of personality (Rotter et al., 1972) identifies factors that lead to perceptions of control, whereby control increases when events are thought to be determined primarily by an individual's own actions (internal LOC), but decreases if events seem to be produced by luck or other people (external LOC; André, 2006). Individuals who believe that their behaviour and personal attributes drive outcomes have an internal LOC, while others who believe that external forces govern outcomes have an external LOC (Galvin, Randel, Collins, & Johnson, 2018). In this perspective, chance is easily distinguishable from luck (André, 2006). Both luck and chance are perceived as external explanations, but luck is considered as more internal than chance (André, 2006). As such, under this perspective, luck is a person attribution (e.g., I am lucky) whereas chance is a property of the environment (André, 2006; Fischhoff, 1976). This distinction can be applied in gambling situations where attributions to luck frequently arise when there is regularity, as opposed to variability, in the pattern of outcome (André, 2006; Keren & Wagenaar, 1985, 1988; Weiner et al., 1971). In these gambling situations, people perceive chance and luck as real, but as two different causes of events (André, 2006). Hence, the person-based conception of luck reflects a belief on the part of the subject that the agent in question has some sort of hidden skill to manipulate events (André, 2006).

Multiple studies have shown that young children perceive older children as more efficient to control chance situations (André, 2006; Weisz, 1980; Weisz, Yeates, Robertson, & Beckman, 1982). Hence, a key determinant of chance is that it is perceived to be controllable, whereas luck is not controllable (André, 2006). In alignment with Ma's (2002) definition of luck being rooted in the concept of uncontrollability, it is appropriate to consider luck, as opposed to and independent of chance, in the present study.

Luck can also be differentiated from chance by examining Hafer and Gresham's (2008) work on luck in business success. They believe that chance is an influence on the intensity of "luckiness" (Hafer & Gresham, 2008). A lucky event occurs, and a luck outcome is achieved, however, how lucky an event is can be tied to the chance of the event occurring. As such, a person is luckier to win a lottery when her chance is one in a million than she is when her chance is one in a thousand (Hafer & Gresham, 2008). Hence chance represents a mathematical probability of occurrence and luck represents a "lucky" event.

The present thesis will examine the role of luck, as opposed to chance, as the present study does not endeavour to assess the frequency and probability of chance events occurring, but intends instead to capture the strength of the impact of the luck event on the translation of ambition to career success. This study seeks to examine the strength and direction of the moderating influence that luck events have on the relationships between ambition, human capital, social capital, and career success, as well as the moderating impact it has on these mediated relationships. As such, luck events (e.g., unexpected financial windfall) that can be objectively identified (e.g., have happened or not) will be employed in this study to better understand the influence that luck has on these existing careers relationships. This objectivity is important because it will help overcome the attributional bias of respondents. This will be discussed in further detail in Study 3.

Antecedents of luck. When considering antecedents to luck, it is vital to consider both the definition and type of luck relevant to the discussion. For example, Dworkin (1981, 2000) makes the distinction between brute and option luck. Roemer (1996, p. 248) defines the difference thus:

Option luck is the outcome of a gamble explicitly taken, while brute luck is an outcome in which no gamble was entered into. Being struck by lightning when no insurance was available, whether or not you were insured, is a matter of option luck ... Thus the presence of insurance markets transforms events of brute luck into option luck. Dworkin's view is that it is fair for persons to

suffer the consequences of option luck, for persons decide how much to insure against those kinds of events. Brute luck, however, is a morally arbitrary (and hence unfair) way of distributing resources.

Brute luck is often used to describe the conditions in which one finds oneself from birth (Dowding, 2017). Dowding (2017) goes on to clarify that no luck is “bruter” than that of how one is born, raised, and circumstanced. Some are born with qualities (beauty or the capability to develop certain types of skill or talent) and some are born into different positions in the social and economic structure (Dowding, 2017). Hence, the extent that the position one is born into naturally advantages or disadvantages a person. Under brute luck, it is arguable that no antecedent exists, as there is no control nor passive determination in realising this luck.

However, when considering option luck, it is feasible that antecedents exist. Using the above example about being struck by lightning, option luck would be evident because insurance markets exist. With the presence of insurance markets, the person would have had an option to have or not have insurance. This luck, while still considered “unlucky”, can be interpreted as “fairer” than brute luck alone. Within the context of option luck, antecedents can emerge—such as responsibility.

Responsibility. According to Dennett (2003) and Dowding (2017) a deterministic approach to responsibility allows for the assignments of responsibility to people. We assign responsibility to people dependent upon how much control we believe they have over their course of action (Dowding, 2017). Responsibility can be determined when people have more control over the outcomes dependent on their actions based upon “(a) the number of viable elements in their opportunity set and (b) the relationship between the actions they perform and the outcomes those actions lead to” (Dowding, 2017, p. 135). Hence, if an opportunity set has only one element, we cannot assign responsibility for choosing it (Dowding, 2017).

We thus assign responsibility given the number of viable options in an opportunity set (Dowding, 2017).

Further, the amount of information that we can expect someone to have processed in a decision is important for the assignation of responsibility. Practically applied, a person who had options to buy from five insurance companies and decided not to purchase a policy with any of the five companies would be exercising option luck and be accepting more responsibility than someone who did not interview insurance companies. Thus their “bad” luck would be a product of responsibility.

Events, trends, and advances. Within a context of prepared luck and a business environment, antecedents emerge in the form of unique historical events, changes in social cultural trends, breakthroughs in technology, shifts in customer tastes and demand, governmental regulation or deregulation, or private or asymmetric information (Ma, 2002). These factors can create differentials in regard to strategy, which in turn can dictate value creation and options for action (Ma, 2002). Beyond pure luck, which is not controllable at all, contextual factors often present themselves as mere opportunities or threats upon which one can act (Ma, 2002). Establishing whether someone is lucky or not is heavily dependent on their particular position, endowment, capabilities, as well as their action at the time (Ma, 2002).

An example of events, social trends, and technology breakthroughs as antecedents to luck is illustrated through Microsoft’s big break in 1980 (Ma, 2002). Microsoft bought an obscure operating system from Seattle Computer for \$50,000 and licensed it to IBM (Ma, 2002). Seattle Computer was fairly unprepared for the Microsoft call and did not know why Microsoft wanted to buy its system (Ma, 2002). The Seattle Computer deal was completed, not before, but 48 hours after Microsoft had already signed the contract with IBM to supply the operating system, which became MS-DOS (Ma, 2002). Microsoft was

lucky to have stumbled over the IBM opportunity and also lucky that Digital Research, the firm that developed the CP/M operating system did not take the IBM launch of PC and Microsoft as a rival very seriously (Ma, 2002). CPM was also contacted by IBM, but responded to the opportunity differently than Microsoft did, as the CP/M boss was largely turned off by IBM's secretive and arrogant manner (Ma, 2002). However, because of their lack of software expertise, Microsoft was unlikely to be closely contacted by IBM. Had Gates and partners only thought about themselves as an application software maker, they would not have had the foresight about the importance of the operating system in the future of the PC business (Ma, 2002). Microsoft then aggressively solicited software written for their DOS and won the war of operating systems in the US PC market within a year (Ma, 2002). As evident through this example, luck is often nothing but opportunities knocking upon those who are looking for them, who will notice them, and who will act on them (Ma, 2002), thus solidifying the argument for events, social trends, and technology breakthroughs being anchored as antecedents to luck within a prepared luck lens.

Outcomes of luck.

Poor decision making. Barrett (2006) asserts that no one is reliably lucky and relying on luck can undermine rational decision as one cannot predict luck, so one should not project luck. As Dennett points out, people often believe that luck is a “projectible property of people or things” and such beliefs result in predictions about future events (In Barrett, 2006, p.73). This projection can result in poor and irrational decision making. Barrett (2006) illustrated this belief by identifying a person who has come to think of herself as lucky because of the degree to which she has benefited from recent chance events. This person notices that she differs from most other people and observes that some people seem to negatively mirror her experience of luck, and chance events work to their disbenefit (Barrett,

2006). It is also feasible that her self-understanding as a lucky person will affect her behaviour and she leads a happy life, is confident about the future, and is more open to experiences (Barrett, 2006). However, according to Barrett (2006), she also might become complacent and simply expect outcomes, rather than working towards them. The impact of this would be a person inferring from her past that she can trust luck and make compromised and ill decisions. Thus, choices made on the basis that one is lucky are misinformed choices.

Career success. Luck has occasionally been incorporated into discussions about career and organisational success within the academic literature and pop culture (Ma, 2002; Pluchino, Biondo, & Rapisarda, 2018; Pritchard, 2010). Eric Schmidt, Google billionaire, is quoted as saying “I would say I’m defined by luck, and I think almost anyone who’s successful has to start by saying they were lucky”, on the *Conversations with Tyler* podcast. “Lucky of birth, lucky of having intellectual and intelligent family home life, upbringing, global upbringing, etc.” (Cowen, 2018). Pluchino et al. (2018) examined the role of luck versus talent in professional success and failure. More specifically, Pluchino et al. (2018) state, if it is true that some degree of talent is necessary to be successful in life, it is rare that the most talented people reach the highest peaks of success. Instead, they are overtaken by mediocre but sensibly luckier individuals (Pluchino et al., 2018). Interestingly, Pluchino et al. (2018) also state that there is presently an ever-greater evidence about the fundamental role of chance, luck, or more in general, random factors, in determining successes or failures in our personal and professional lives. They go on to identify a long list of examples such as: those with earlier surname initials are significantly more likely to receive tenure at top departments; that the distributions of bibliometric indicators collected by a scholar might be the result of chance and noise related to multiplicative phenomena connected to a publish or perish inflationary mechanism; that middle name initials enhance evaluations of intellectual performance; that people with easy-to-pronounce names are judged more positively than

those with difficult-to-pronounce names; that individuals with noble-sounding surnames are found to work more often as managers than as employees; that females with masculine monikers are more successful in legal careers; and that the probability of becoming a CEO is strongly influenced by your name or by your month of birth (Pluchino et al., 2018). Their findings include discovering that randomness plays a fundamental role in selecting the most successful individuals and that ordinary people with an average level of talent are statistically destined to be successful much more than the most talented ones, provided that they are more blessed by fortune along their life (Pluchino et al., 2018). Their study casts attention on the effectiveness of assessing merit on the basis of the reached level of success and underlines the risks of distributing excessive honours or resources to people who, at the end of the day, could have been simply luckier than others (Pluchino et al., 2018).

Pritchard (2010) discusses the concept that luck, in relation to achievements or successes, are in a certain sense, at least, immune to luck. Pritchard (2010, p. 20) defines achievement a “success that is because of the exercise of one’s relevant abilities (rather than due to some factor external to one’s agency, such as luck)”. Pritchard (2010) further qualifies that when one’s success qualifies as an achievement then it is not down to luck. However, Pritchard (2010) goes on to clarify that there is a kind of luck which, surprisingly, is entirely compatible with achievements and success. Pritchard (2010) presents two kinds of luck. The first is an “intervening” kind where something actually gets between the agent’s abilities and the target success (Pritchard, 2010). This kind of luck is incompatible with achievements because it infers that the success in question was not because of the exercise of the agent’s abilities, but rather down to luck. The second kind is very different because it does not intervene in this way, but instead is of a purely “environmental” type (Pritchard, 2010). Although the claim that environmental luck is compatible with achievement might be initially unanticipated, it does become more conceivable on closer inspection (Pritchard, 2010).

Pritchard (2010) illustrates this point through the example of Viola. Viola is a fantastic violinist who successfully undertakes a performance of a tricky piece of music and pulls it off fantastically (Pritchard, 2010). However, suppose that unbeknownst to Viola the room she is standing in is surrounded by water, and it is just pure luck that this water did not break through the walls during her performance and prevent her from finishing the performance (Pritchard, 2010). In one sense, her success is lucky, as she could very easily have been unsuccessful (Pritchard, 2010). However, the fact remains that the water did not impede her performance and she does exhibit a bona fide achievement (Pritchard, 2010). Thus, the compatibility of environmental luck and achievement demonstrates is that it can be a matter of luck that one is in a position to exhibit an achievement, but that this does not entail that it is any less of an achievement (Pritchard, 2010). In this specific sense, achievements can, in fact, be lucky (Pritchard, 2010). As such, it is reasonable to embrace Pritchard's belief that luck, while not entirely responsible for achievement, does influence and intensify achievement and success.

Leadership. Dowding (2017) argues that we cannot understand leadership by looking at existing qualities of leaders or all leaders in isolation from the issues they faced, whether the decisions they made were in line with what elite and public opinion believed were correct and how far those decisions were believed to be correct. For example, two people in identical situations may both make the same risky decision (Dowding, 2017). For one, it succeeds spectacularly and for the other, it fails miserably (Dowding, 2017). When reflecting on the decision, we may make the judgement that the one who succeeded got it right (through sheer luck) or was a good decision maker, whereas the one who got it wrong would be seen to have poor judgment (Dowding, 2017). Further, the first person would be seen to be a good leader and the second would be seen as a poor one (Dowding, 2017). Hence, according to Dowding (2017), the actual identification of someone's quality/attribute as a strength (as opposed to a

weakness) actually occurs through luck itself. A specific example: after two years at Harvard, a young Bill Gates took a risk that would end up giving way to the rest of his career. Against conventional logic that getting a degree is a much surer path to success, he dropped out of college to found Microsoft and was wildly successful. Gates was a risk taker, and sometimes a great risk reaps great reward. His ability to take a large risk is perceived to be a positive attribute. However, if he had dropped out of Harvard to form Microsoft, and Microsoft had failed, this same attribute of risk taking would be perceived as reckless and negative. As such, leadership qualities and the environment perpetually interact and the one who becomes identified as a great leader depends on their ability, but also on luck (Dowding, 2017). As such, having a recipe for becoming or choosing a great leader without acknowledging luck can result in disastrous leaders and predictive failures (Dowding, 2017).

Objective luck versus attributional luck. When examining the issues surrounding luck, several well-established behavioural management theories and their relationships to luck are brought into question—including attribution theory (Hafer & Gresham, 2008). The majority of work on attributions comes from Weiner et al.'s (1972) explanation that attributions are based on ability, effort, task difficulty, and luck (Hafer & Gresham, 2008). In this perspective, luck is perceived as an external, unstable, and uncontrollable cause which should have little effect on future expectations (André, 2006; Weiner et al., 1971). According to attribution theory, success is attributed to one's own personal character, hard work, and preparation, while failure is attributed to situational factors outside one's control (Hafer & Gresham, 2008). An example of this is seen through Elliott's (1989) work that found unsuccessful students attributed the achievement of successful students not to a lack of luck on their part, but rather to more luck on the part of the successful students (Hafer & Gresham, 2008). There is also substantive evidence that individuals have a distorted recollection of past events and distorted attributions of the causes of success or failure (Hafer & Gresham,

2008). Further, recollections of good events or successes are typically easier than recollections of bad ones or failures (Hafer & Gresham, 2008). Interestingly, successes tend to be attributed to intrinsic aptitudes or effort, while failures are attributed to bad luck (Hafer & Gresham, 2008). However, these “attributions are often reversed when judging the performance of others” (Compte & Postlewaite, 2004, p. 1536). Most recently, Denrell, Fang, and Liu (2019) suggested that people tend to mistake luck for skill in evaluations and ignore how future performance regresses to the mean. As such, they argue that these systematic mistakes can be translated into alternative sources of profit, as informed strategists can take advantage of others’ misattributions of luck by exploiting the false expectations. As such, the attribution or misattribution of luck should be considered when collecting data and measuring the impact of luck on construct relationships.

Interestingly, attributions varied according to SES and gender (Hafer & Gresham, 2008). Lower SES students tended to attribute a successful/failed outcome to luck alone, while 55% of the higher SES children attributed the outcome to effort only and would not admit to the effects of luck (Hafer & Gresham, 2008). The lower SES/lower achievement children (25%) were more willing to accept such explanations (Hafer & Gresham, 2008). Gender differences are also evident in attributions of career success to luck (Hafer & Gresham, 2008). Women attribute success more to luck than their male counterparts (Russo, Kelly, & Deacon, 1991; Försterling, Preikschas, & Agthe, 2007; O’Neill, 2007). Interestingly, Ricketts Gaskill (1991, p. 167) found women in upper retail management “... placed more importance on factors related to personal ambition and abilities while mid-levels placed more importance on opportunity and luck in their success” (Hafer & Gresham, 2008).

Ma (2002) presented arguments relating competitive advantage to luck, but built the argument that what is often attributed to luck is more the result of unrecognised systemic and visionary effort and judicious environmental scanning, which results in greater recognition of

opportunities. Despite this, the events are still overtaken by attributional bias and are attributed to luck. Bright, Pryor, and Harpham (2005) looked at the role of chance events as influencers in career decision making and found that chance events were self-reported as influencing the career decisions of 69% of the sample. The study used a Chance Event Survey and asked the subjects to rate the overall influence of chance events on their career choices; thus, still embracing attributional bias into the discussion (Bright, Pryor & Harpham, 2005).

There is much discussion within social psychology about attributional theory (Kelley & Michela, 1980; Silvester & Chapman, 1997). Attribution refers to the perception or inference of cause (Kelley & Michela, 1980). The common ideas are that people interpret behaviour in terms of its causes and that these interpretations play an important role in determining reactions to the behaviour (Ashforth & Fugate, 2006). Attributional theorists have argued that the search for causal explanations is not guided solely by situational factors, but instead a given individual tends to be consistent across time and situations in the way he or she ascribes causality for events, and people tend to vary in the characteristic ascriptions they make for events (Abramson, Seligman, & Teasdale, 1978; Ashforth & Fugate, 2006; Weiner, 1979). An example of this is that one individual may tend to ascribe negative events to bad luck, whereas another may ascribe negative events to his or her own poor abilities (Ashforth & Fugate, 2006). As stated by Ashforth and Fugate (2006), this concept of individual differences attributional style has important implications for a number of cognitive, affective, and behavioural variables, considering the central role that attribution plays in how we make sense of the world and negotiate our way within it.

The concern for modern researchers is the consideration of attributional bias when determining a way to successfully quantify luck within a success context, as an event may be considered lucky to one, but unlucky to another. This inherently challenges the existing

measured of luck events that afford the existence of attribution (Bright, Pryor, & Harpham, 2005; Darke & Freedman, 1997; Hafer & Gresham, 2008; Wohl, Stewart, & Young, 2011). Ma's (2002) definition of luck will be the embraced definition for this study: "luck defies human action and intention, has no purposeful control or intention, and is not controllable at all" (p.546). As non-controllability runs central to the determination of what luck embodies, and the exclusion of significance reduces the influence of the subjective, subjectivity is not desirable. Focusing on the subjective, as opposed to the objective, risks attributional bias when reflecting on luck events over the course of a lifetime (Bright, Pryor, & Harpham, 2005; Hafer & Gresham, 2008; Wohl, Stewart, & Young, 2011). For example, two people have been unexpectedly laid off at the same time and in the same way from the same company and received the same redundancy packages. For one person, receiving a redundancy may be attributed to bad luck because it resulted in negative outcomes, such as them developing depression or being excluded from the workforce. However, for the other person, the unexpected redundancy offered new opportunities and the ability to explore a new career. For this second person, the redundancy may be attributed to good luck. Hence, if the study were to include the component of significance and attribution, subjective luck would be introduced, and the objectivity of the event could be diminished.

As discussed above, the present study endeavours to examine the moderating impact luck has on ambition's relationship to career success, via human capital and social capital. As it is feasible to expect ambition to translate into career success outcomes via explanatory constructs, like human capital and social capital, the role and moderating impact that luck events may have on this relationship remains elusive. As luck events can be advantageous and result in tangible positive outcome throughout one's life and career, it is important to consider what impact luck might have on the relationship between ambition and career success. The theory to explain this anticipated research model is the COR theory. I will now

extensively define and discuss COR theory within the context of the careers literature.

Conservation of Resources Theory

This study will draw upon Hobfoll's (2001) COR theory which proposes that "individuals are motivated to protect their current resources (conservation) and acquire new resources (acquisition) to develop a model and identify constructs" (Hobfoll, 2001, p. 338). As such, Hobfoll's (2001) COR theory will explain the proposed chain of relationships depicted in the present study's conceptual model. In COR theory, resources are loosely defined as objects, states, conditions, and other things that people value (Hobfoll, 2001). The value of resources "varies among individuals and is tied to their personal experiences and situations" (Hobfoll, 2001, pg. 4). This study will apply Hobfoll's COR theory by examining how luck impacts the (1) the relationship of ambition and career success (objective and subjective) via human capital and social capital, and (2) how luck moderates these relationships.

There are four core tenants of COR. The first is primacy of resource loss (Hobfoll, 1989). This is the idea that an individual experiences more psychological harm when they lose resources than they gain when they acquire resources of equivalent value (Hobfoll, 1989). These entities of value are defined as resources, and may be categorised into object, condition, personal characteristic, and energy resources (Hobfoll, 2001). Resources are not determined by the individual, but instead are both transcultural as well as products of any given culture (Hobfoll, 2001). When these resources are not secure, psychological stress will occur (Hobfoll, 2001). According to Hobfoll (2001), stress will occur when individuals' resources are threatened with loss, when individuals' resources are actually lost, or when individuals fail to gain sufficient resources following significant resource investment. The principle that derives from this core tenet is determined as the primacy of resource loss (Hobfoll, 2001). This principle of COR theory tells us that resource loss is disproportionately

more salient than resource gain, thus meaning that, given equal amounts of loss and gain, loss will have significantly greater impact (Hobfoll, 2001).

The second tenet is resource investment (Hobfoll, 1989). This proposes that people invest their resources to protect themselves from future resource loss as well as to gain resources (Hobfoll, 1989). A related corollary of resource investment is that those with greater resources are less vulnerable to resource loss and more capable of arranging for resource gain (Hobfoll, 2001). In contrast, those with fewer resources are more vulnerable to resource loss and less capable of resource gain (Hobfoll, 2001). Generally speaking, an investment of resources demands a price that must be considered, because if such investment does not curtail the tide of resource loss or contribute to obtaining other resource gains, then the net effect will leave the individual or group in a position of diminished capacity (Hobfoll, 2001). Internal resources and attempts at self-regulation have also been found to result in diminished capacity for sustained goal-directed effort (Baumeister, Bratslavsky, Muraven, & Tice, 1998). There is significant evidence that personal, social, and economic resources can be invested to assist in stress resistance (Hobfoll, 2001). This has been shown, in particular, for single resources such as self-efficacy, optimism, and self-esteem (Bandura, 1997; Scheier & Carver, 1985).

The third corollary captures resource loss and gain spirals. This component of COR suggests that once initial loss occurs an individual will become increasingly vulnerable to ongoing loss (Hobfoll, 1989). Alternatively, initial gains can beget subsequent gains for resource-endowed individuals, producing a “resource gain” spiral. Corollary 3 mirrors Corollary 2, in that those who possess resources are more capable of gain, and that initial resource gain precipitates further gain (Hobfoll, 2001). However, being mindful that loss is more potent than gain, loss cycles will be more impactful and more accelerated than gain cycles (Hobfoll, 2001). As resource loss is stressful, and because people must invest

resources to offset further resource loss, once the initial loss occurs, people become progressively vulnerable to ongoing loss and a resource loss spiral occurs.

Fourth, COR tells us that individuals who lack ample resources are likely to react defensively to resource loss to conserve the resources they have remaining (Hobfoll, 1989). For example, if an individual is time depleted because he/she has young children and carer responsibilities for parents, he/she will focus on completing core job requirements and refrain from team building and organisational citizenship behaviours in an effort to conserve his/her resource reserves (Hobfoll, 2001). Similarly, Breznitz (1983) determined that those who are less psychologically capable will use seemingly counterproductive forms of extreme denial because of their lack of resource. However, those who are psychologically stronger will use temporary and more limited forms of denial (denying the need to act immediately or denying severe impact to the self) while they allow themselves to regroup with renewed effort after a short psychological hiatus (Hobfoll, 2001). Another example of the fourth corollary of COR is within a study of disaster (Carver, 1993). One study found that those individuals who experienced greater resource loss in a disaster were more likely to develop PTSD, mediated by their level of denial (Carver, 1993). This implies that greater resource loss may lead to the defensive posture of denial, rather than active coping (Carver, 1993). Despite denial having negative consequences, resource reserves were too depleted to act otherwise (Carver, 1993).

According to Halbesleben, Neveu, Paustian-Underdahl, and Westman (2014), COR theory has emerged as one of the most commonly cited theories in the organisational behaviour literature (Hobfoll, 1989). As COR theory is built on the foundation of the resource construct and defines resources as things that people value (with an emphasis on objects, states, conditions, and other things), the organisational behaviour literature has consequently used the broadness of the definition to interpret the theory in a wide variety of ways: employee wellbeing (Selenko, Mäkikangas, Mauno, & Kinnunen; 2013); rewards and

recognition, performance (Liu, Prati, Perrewé, & Ferris, 2008; Winkel, Wyland, Shaffer, & Clason, 2011), professional development (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009), dispositional traits policies (Halbesleben, Harvey, & Bolino, 2009; Payne, Cook, & Diaz, 2012; Penney, Hunter, & Perry, 2011; Witt, Andrews, & Carlson, 2004), and recovery experiences (Chen, Westman, & Eden, 2009; Diestel & Schmidt, 2012; Halbesleben, 2006; Hochwarter, Witt, Treadway, & Ferris, 2006; Lee & Ashforth, 1996; Liu, Kwan, Fu, & Mao, 2013). Consequently, COR theory has moved to a central reference in organisational behaviour and continues to be applied and developed within new organisational contexts. As such, the present study will employ COR as the anchoring theory of the causal model in Study 3. The application of COR theory to Study 3 will be discussed in detail in subsequent chapters.

Conclusion

The previous chapter has extensively reviewed the relevant literature on ambition, human capital, social capital, luck, and career success, as well as discussed COR theory and the manner in which it has previously been applied. The following chapter will discuss Study 1 of this thesis.

Chapter Two: Study 1

The following chapter will include the entirety of Study 1 of this thesis. Study 1 is an initial validation of a brief measure of ambition. Chapter Two will include a review of constructs that are related to ambition, the method, method of analysis, results, and discussion for this study.

As outlined in the Literature Review, ambition is a personality characteristic that has been defined as “the persistent and generalized striving for success, attainment, and accomplishment” (Judge & Kammeyer-Mueller, 2012, p.759). According to Hansson, Hogan, Johnson, and Schroeder (1983), ambitious people are competitive, assertive, achievement-oriented, confident, and upwardly mobile. They are more likely to perform well in school (Driskell, Hogan, Salas, & Hoskin, 1994) and are quick learners (Burris, 1976). Ambitious people achieve higher levels of education, work in more prestigious occupations, and have higher net incomes (Judge & Kammeyer-Mueller, 2012; Kern, Friedman, Martin, Reynolds, & Luong, 2009; Van der Heijde & Van der Heijden, 2006).

There are a number of scales that measure facets of ambition or constructs that are similar to ambition, such as career ambition, drive, the HPI, career aspiration and conscientiousness. The 9-item career ambition scale developed by Elchardus and Smits (2008) consists mostly of items that endeavour to quantify a level of ambition within a careers context (e.g., “I want to achieve the highest possible level in my work”). Whilst generalised ambition does incorporate elements that translate to career outcomes, it does not solely focus on career ambition. The BAS Drive scale developed by Carver and White (1994; e.g., “I wait for others to lead the way”), while closest of the alternative scales to ambition, does not fully capture in entirety the complexity of ambition because, as discussed in the literature review, is intertwined with the concept of motivation, and thus becomes further distant from ambition (Yahalom, 2014; Bates, 1979). Because of the motivational

focus of the Drive scale (Carver & White, 1994), it is important to measure ambition independent to drive. Hogan and Holland (2003) viewed ambition as a facet of extraversion, despite the five-factor model of personality omitting ambition (Jones et al., 2017). Ambition is also categorised as sociability, which is not representative of generalised ambition per se (Jones et al., 2017). Further, ambition is only a small component of the extremely lengthy overall personality index. As it is embedded within the larger index, the proprietary HPI scale is not appropriate for the measurement of generalised ambition as a free-standing construct. While a subscale could be extracted, it is not recommended, as the HPI was designed to be interpreted holistically, as opposed to by subscale (Hogan & Holland, 2003). As such, the primary interpretative focus should always remain at the main scale level, and over-emphasising or over-generalising subscales (like ambition) should be avoided (Hogan & Holland, 2003). Further, the validity and predictive power of a single subscale is too narrow to stand alone. As mentioned earlier, career aspiration is different to ambition; while ambition is a habitual striving for or the desire for accomplishment, the modern interpretation of career aspiration is interpreted as the degree to which a person aspires to leadership positions and continued education within their careers (Gray & O'Brien, 2007). The career aspiration scale developed by Gray and O'Brien (2007) includes items such as "I would be satisfied just doing my job in a career I am interested in". Like career ambition, it focuses solely on career and organisational outcomes and, more specifically, measures the construct within the person's current work environment, thus excluding any more generalisable interpretation of aspiration or ambition. This scale is not congruent with capturing generalised ambition because it focuses exclusively on aspiration within a current work/careers context, as opposed to aspiration more generally. The conscientiousness scale developed by Jackson et al. (1996) includes example items like "I pay attention to details" and "I get chores done right away". However, these scale items do not capture elements of

ambition, but elements more aligned to attention to detail and diligence. Further, ambition, as a construct, has dimensions outside of conscientiousness, and as such, requires a different scale of measurement.

As mentioned in the literature review on ambition, applied researchers have included components of ambition in the exploration of more recently created, yet parallel construct scales—such as proactivity (Duckworth et al., 2007). Similar constructs, like extraversion, incorporate elements of ambition into their measures, but do not examine ambition as an independent construct (Duckworth et al., 2007).

As noted above, while there are existing measures of related constructs such as career ambition, career aspiration, drive, and achievement (Bjørnebekk et al., 2013; Elchardus & Smits, 2008; Judge & Kammeyer-Mueller, 2012; Lindberg & Rantatalo, 2015), none of these measures capture the more generalised construct of ambition. While there are few validated and readily available ambition measures, a brief, 5-item measure of ambition was developed by Duckworth et al. (2007). To my knowledge, this measure has not been validated. The purpose of the present study is to examine the reliability, factorial validity, and the convergent/discriminant validity of the measure of ambition developed by Duckworth et al. (2007). This study provides an important empirical contribution by validating a brief ambition scale for use in future personality, management, and social sciences research.

Method

Hinkin (1995) states that inadequate measures have historically been developed and used in organisational research for many reasons, including the fact that researchers may not understand the importance of reliability and validity to sound measurement, and may rely simply on face validity if a measure appears to capture the construct of interest. Despite this, it has been shown that “. . . a measure may appear to be a valid index of some variable, but

lack construct and/or criterion-related validity” (Stone, 1978, pp. 54-55). However, statistical significance is of little value if the measures utilised are not reliable and valid (Nunnally, 1978). Hinkin (1995) goes on to state that, as the demonstration of construct validity of a measure is the ultimate objective of the scale development process (Cronbach & Meehl, 1955), the scale evaluation stage should demonstrate both reliability and validity. As such, the present study will comply with these recommendations to establish ambition’s construct validity by exploring ambition in relation to the similar constructs of career ambition, drive, career aspiration, and conscientiousness to provide evidenced reliability and validity of the 5-item of ambition scale developed by Duckworth et al. (2007). I examined ambition in conjunction with career ambition, drive, career aspiration, and conscientiousness because, theoretically, they display elements of similarity to ambition, and as such were likely to be correlated. The following section will outline the design and methods used to validate the ambition scale. This section will detail the sample, procedure and measures used, as well as discuss scale reliability and validity. Finally, this section will discuss the pilot study and ethical considerations made.

Sample and procedure. The data for the present study was drawn from an online survey of a sample of 121 adults. Tabachnick and Fidell (2013) suggest that 300 cases can be considered the minimum requirement for a CFA characterised by low commonalities, a small number of factors, and a just a few indicators for each of the factors. However, Tabachnick and Fidell (2013) also note that when these conditions are improved, smaller sample sizes may be sufficient. Others suggest that sample sizes in the range of 100-200 are sufficient (Comrey & Lee, 1992; MacCallum et al., 1999). This is reiterated by common rules of thumb which suggest that at least 100 cases are required (Gorsuch, 1983; Kline, 1979). Based upon the above considerations, the sample of 121 was considered sufficient for the analysis.

Inclusion criteria in the study included being a minimum of 25 years of age. This minimum age was chosen because it captured a respondent that would likely have some degree of work experience. The respondents were recruited through convenience sampling: a non-probability sampling technique that selects participants on their availability to participate (Tharenou, Donohue, & Cooper, 2007). Although this type of sampling can supply a large sample in a cost-effective way, it can also present issues for generalising to the population, for the reason that it is difficult to verify that the sample is representative of the population (Tharenou et al., 2007). However, taking into consideration the advantages and limitations of convenience sampling, it was decided that convenience sampling would provide a greater likelihood of obtaining a large sample size for the ambition scale validation. Care was taken to distribute the survey to respondents of various ages, career stages, vocation, and industry in order to obtain a diverse sample.

The present study was approved by the Monash University Human Resources Ethics Committee (MUHREC; see Appendix A). Participation in the study was voluntary and consent was implied from the participant's completion of the survey, after reading the explanatory statement at the beginning of the survey (see Appendix B).

Description of sample. Among the respondents, 47% were male. Of the 114 respondents (94%) who were employed, the majority were employed full-time (66%) and the others were employed part-time (23%) or on a casual basis (12%). A quarter of the respondents were middle-aged (24%) and there was a strong representation of respondents under 35 years of age (34%). Respondents were from a diverse range of occupations including management (32%), professional services (50%), trades (3%), and general labour (1%). Table 1 presents a profile of the sample.

Table 1: Demographics of Sample for Study 1

Sample demographic	Percent
<i>Gender</i>	
Male	47%
Female	53%
<i>Employment</i>	
Full-time	66%
Part-time	23%
Casual	11%
Other	1%
<i>Age (in years)</i>	
Under 25	3%
25–34	31%
35–44	36%
45–54	17%
55–64	7%
65+	6%
<i>Occupation</i>	
Management	32%
Professional services	50%
Trades	3%
General labour	1%
Other	15%

Note: $N = 121$

Ambition. Ambition was measured using the 5-item ambition scale (Duckworth et al., 2007; Duckworth & Gross, 2014). This scale is intended to be a unidimensional measure of generalised ambition. The five items are: “I am ambitious”, “I aim to be the best in the world at what I do”, “Achieving something of lasting importance is the highest goal in life”, “I am driven to succeed”, and “I think achievement is overrated” (final item reverse-scored;

Duckworth et al., 2007). Respondents indicated their level of agreement with each item on a 5-point scale (1 = Not like me at all, to 5 = Very much like me). Responses to the five items were averaged to form a composite scale.

Drive. Drive was measured using the 4-item drive scale (Carver & White, 1994). Items are “I go out of my way to get things I want”, “I wait for others to lead the way” (reverse-scored), “When I want something, I usually go all-out to get it”, and “If I see a chance to get something I want, I move on it right away” (Carver & White, 1994). Respondents indicated their level of agreement with each item on a 5-point scale (1 = Very false for me, to 5 = Very true for me). Responses to the four items were averaged to form a composite scale.

Career ambition. Career ambition was measured using the 9-item career ambition scale (Elchardus & Smits, 2008). Example items are “I want to achieve the highest possible level in my work”, “I have the ambition to reach a higher position”, “I am not really interested in achieving the highest possible levels at work” (reverse-scored), “A career does not have priority” (reverse-scored), and “I like to be challenged in my work”. Respondents indicated their level of agreement with each item on a 5-point scale (1 = Strongly disagree, to 5 = Strongly agree). Responses to the nine items were averaged to form a composite scale.

Career aspiration. Career aspiration was measured using the 6-item career aspiration scale (Gray & O’Brien, 2007). Example items are “I hope to become a leader in my career field”, “When I am established in my career, I would like to manage other employees”, “I would be satisfied just doing my job in a career I am interested in” (reverse-scored), and “I do not plan to devote energy to getting promoted in the organisation or business I am working in” (reverse-scored; Gray & O’Brien, 2007). Respondents indicated their level of agreement with each item on a 5-point scale (1 = Strongly disagree, to 5 = Strongly agree). Responses to the six items were averaged to form a composite scale.

Conscientiousness. Conscientiousness was measured using the 10-item conscientiousness scale (Jackson et al., 1996). Example items are “I am always prepared”, “I pay attention to details”, “I get chores done right away”, “I waste my time” (reverse-scored), “I find it difficult to get down to work” (reverse-scored), “I do just enough work to get by” (reverse-scored), “I don't see things through” (reverse-scored), and “I shirk my duties” (reverse-scored; Jackson et al., 1996). Respondents indicated their level of agreement with each item on a 5-point scale (1 = Strongly disagree, to 5 = Strongly agree). Responses to the 10 items were averaged to form a composite scale.

Method of analysis.

Pilot. Prior to administering the survey, a pilot survey was distributed to colleagues who were generally familiar with quantitative survey methods and organisational behaviour research ($n = 20$). I asked respondents to (a) comment on the format of the survey and (b) indicate if any questions or instructions were difficult to understand. I received feedback that resulted in a few minor, technical changes that were incorporated into the final version of the survey.

Measures. The data for the present study was obtained through Qualtrics online survey software and then transferred into SPSS version 25 for statistical analysis. Factor analysis was conducted, and this technique allows for the identification of underlying structure and common variance between observed variables (Gorsuch, 1990; Hair Jr, Black, Babin, & Anderson, 2014; Kim & Mueller, 1978). This is accomplished by the collapsing of measured variables into fewer factors based on the similarity patterns of their relationships between one another (Tharenou et al., 2007). Observed variables that are hypothesised to capture the same concept can be expected to load onto the same factor. As such, factor analysis evaluates whether the data collected are in line with the theoretically expected

structure of the target construct, and therefore provide evidence for construct validity (Matsunaga, 2010; Russell, 2002; Sekaran & Bougie, 2009).

There are two methods of factor analysis: exploratory and confirmatory factor analysis (EFA and CFA, respectively; Thompson, 2004). Both methods may be regarded as “analytic cousins” as they are both used to investigate the underlying factor structure and variability of data (Jackson, Gillaspay Jr, & Purc-Stephenson, 2009). Despite this, EFA and CFA differ in their process and purpose. EFA is primarily applied in theory-building, where there is little known about the variability of, and interrelationships among, the indicators or observed variables and the corresponding unobserved or latent factors that account for them (Henson & Roberts, 2006). CFA is used to determine if the measures employed have measured what they purport to measure. Hence, CFA permits the determining of how well an initial theoretical specification of the factors matches the data (Hair Jr et al., 2014).

EFA is used to analyse the scores of multiple items and evaluate whether they can be reduced to underlying dimensions (Tharenou et al., 2007). Highly related items will load onto one factor (Tharenou et al., 2007). The goal of principal components analysis is to arrive at a smaller number of factors (components) that will extract most of the total variance from a larger set of variables (Tharenou et al., 2007). The first factor that is extracted explains the most variance and the second factor explains the second most, and so on (Tharenou et al., 2007).

Two forms of rotation in EFA are used to ascertain a clearer picture of the factor: orthogonal and oblique rotations. Orthogonal rotation assumes the factors resulting are not correlated to each other, and oblique rotation (oblimin; promax) assumes the factors may be related and allows the factors that emerge to be correlated (Tharenou et al., 2007). Most commonly, the method of principal components analysis with orthogonal rotation is used when conducting EFA within the organisational sciences, although oblique rotation can also

be used when there is little knowledge of the scale (Hinkin, 1995; Tharenou et al., 2007). The number of factors to rotate can be determined by two methods: the Kaiser criterion or Cattell's scree test. The Kaiser criterion method rotates eigenvalues greater than one and is the most common method used (Hinkin, 1995). According to Ford, MacCallum, and Tait (1986), a researcher should interpret factor loadings no less than .40, although others recommend interpreting factor loadings greater than .30 (Tabachnick & Fidell, 2013). For oblique (promax) rotation, researchers interpret the pattern matrix, although the structure matrix also provides valuable information. EFA is applied to a matrix of Pearson correlations derived from raw data (Tharenou et al., 2007). Researchers then take the items on the factor whose loadings are greater than the determined cut off (e.g., .40) and sum or average the scores for the items (Tharenou et al., 2007). Five to 10 cases per item are recommended when conducting an EFA to ensure a stable solution (Guadagnoli & Velicer, 1988). Pairwise deletion is best when conducting an EFA for missing data in order to avoid loss of data (Tharenou et al., 2007). EFA with principal components analysis was conducted on the 5-item ambition scale (Duckworth et al., 2007) with oblique (promax) rotation, as the scale has not been previously validated and there is scarce knowledge about the variability of, and interrelationships among, the observed variables and the corresponding unobserved factors that account for them (Henson & Roberts, 2006).

Reliability. Reliability (the extent to which a measure is devoid of random measurement error) is imperative in scale development and details the amount of variance that can be attributed to the true score of the latent construct (Smithson, 2000; Tharenou et al., 2007). Hence, measures with high reliability confirm that research is adequately and rigorously conducted (Tharenou et al., 2007). To establish validity, reliability is first required (Tharenou et al., 2007). In regard to reliability, two basic concerns require consideration: the consistency of items within a measure, and the stability of the measure over time (Hinkin,

1995). Reliability may be calculated in many ways, though the most commonly accepted measure is internal consistency reliability using Cronbach's alpha (Price & Mueller, 1986).

The present study assesses reliability through the internal consistency method, as it is best used with multi-item measures (Tharenou et al., 2007). Internal consistency indicates the homogeneity of items in a measure (Hinkin, 1998) and displays the extent to which items within a multi-item scale are coherent with one another (Tharenou et al., 2007).). An alpha coefficient is the most common statistic used to measure the internal consistency of a multi-item scale (Nunnally, 1967). The Cronbach's alpha coefficient should be a minimum of 0.7 to verify that a multi-item scale is reliable (Tharenou et al., 2007). However, it is also argued that a more rigorous value of .8 is more appropriate (Henson, 2001).

Validity. Validity, according to Hair Jr et al. (2014) can be defined as the degree to which a measure accurately represents the construct of interest; this means that if a measure is valid, it measures what it claims to measure. Construct validity refers to whether a measure is associated with other measures in directions that are reflective of underlying theory of the construct (Tharenou et al., 2007). Within construct validity lies convergent validity and discriminant validity. Convergent validity is the extent to which the measures of constructs that should theoretically be related are correlated, and discriminant validity is the extent to which scores on a measure are not associated with scores on other dissimilar constructs (Hair Jr et al., 2014; Tharenou et al., 2007). According to Hair Jr et al. (2014), similar measures of constructs should theoretically demonstrate a high degree of covariance. To establish construct validity in the present study, the constructs of career ambition, drive, career aspiration, and conscientiousness were examined to demonstrate the degree of correlation they displayed in relation to generalised ambition (the 5-item ambition scale; Duckworth et al., 2007). The results of these correlations will be discussed in the results section to follow.

Results

The results of the factor analysis, reliability analysis, and construct validity of the 5-item ambition scale will be discussed in detail below.

Factor analysis of the ambition scale. A principal components analysis of the ambition items was conducted and the Kaiser-Meyer-Olkin value was .81, exceeding the recommended value of .6 (Kaiser, 1970, 1974), and Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance ($p < .001$), supporting the factorability of the correlation matrix.

Principal components analysis revealed the presence of four components with eigenvalues exceeding 1, explaining 62.7%, 13.1%, 10.7%, 8.2% and 5.3% of the variance, respectively. An inspection of the scree plot (see Figure 1) revealed a clear break after the first component. Using Cattell's (1966) scree test, it was decided to retain one component for further investigation.

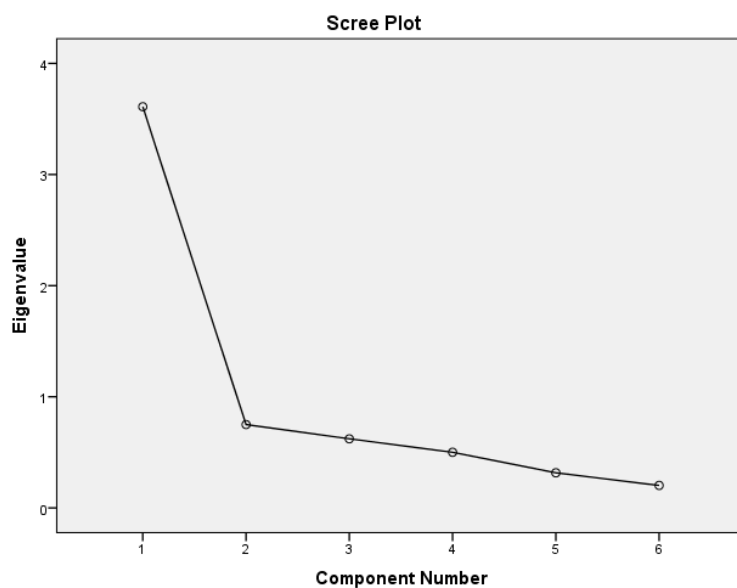


Figure 1: Scree Plot I

All items in this analysis had primary loadings over .5, suggesting they are all strongly related to the factor (“I am ambitious” = .85, “I aim to be the best in the world at what I do” = .83, “I am driven to succeed” = .80, “I think achievement is overrated” = .75; “Achieving something of lasting importance is the highest goal in life” = .72). Once the factor structure was examined, a reliability check was conducted. Prior to analysis, negatively worded items were reverse recoded.

Reliability. As displayed in Table 2, all measures used in the study, except for career aspiration, had a Cronbach’s alpha above .70, suggesting adequate reliability. The Cronbach’s alpha coefficient for ambition was .85, indicating strong internal consistency.

Table 2: Bivariate Correlations, Internal Consistency Estimates, Means, and Standard Deviations for Study 1 Scales

Variable	M	SD	1	2	3	4	5
1. Ambition	3.6	0.8	(.85)				
2. Drive	3.74	0.74	.59**	(.79)			
3. Career aspiration	3.52	0.68	.71**	.44**	(.66)		
4. Career ambition	3.66	0.51	.73**	.45**	.74***	(.91)	
5. Conscientiousness	3.8	0.79	.40**	.28**	.42**	.53**	(.73)

Note: $N = 121$; **< .01; alpha reliabilities are given in parentheses.

Construct validity. As noted earlier, I included measures of career ambition, drive, career aspiration, and conscientiousness to test for convergent and discriminant validity. I expected the measure of ambition to positively correlate with each of these measures, but not so strongly as to indicate redundancy or lack of discriminant validity.

As shown in Table 2, it can be seen that the ambition scale has convergent validity, as it is significantly and positively correlated with drive ($r = .56, p < 0.01$), career aspiration ($r = .71, p < .01$), career ambition ($r = .73, p < 0.01$), and conscientiousness ($r = .40, p < .01$). The correlations of ambition with career ambition and career aspiration are strong (above .70) and, as a result, display similarity.

In light of the high intercorrelations with existing scales, further investigation was undertaken to conduct a factor analysis. As the ambition scale is in its early stages of research and does not look to confirm specific hypotheses, an EFA was deemed appropriate (Pallant, 2013). Whilst CFA could be conducted to compare the ambition items with each of the other variables, the nature of the stage of research and the analysis of the ambition scale without a specific *a priori* in terms of the number and patterns of common factors, an EFA was determined to be the more appropriate factor analysis to conduct in regards to high intercorrelations between variables and discriminant validity. Fabrigar and Wegener (2011) suggest that some researchers argue that an advantage of CFA over EFA is the ability to quantify model fit, compare competing models with respect to their fit, and conduct statistical tests of parameter. However, many of these differences are in perception and not fundamental to the exploratory/confirmatory distinction (Fabrigar & Wegener, 2011). Rather, their differences arise out of the particular model fitting procedures that have been commonly used in these two approaches (Fabrigar & Wegener, 2011). For instance, maximum likelihood parameter estimation has been the most frequently used method of fitting models in CFA, but can certainly be used in EFA, and, when used, it is possible to compute the same model fit indices commonly utilized in CFA (Fabrigar & Wegener, 2011). It is also possible to compute standard errors, confidence intervals, and statistical tests for model parameters when using maximum likelihood EFA (Fabrigar & Wegener, 2011). As such, the supposed benefits of CFA do not necessarily represent strong reasons to shift from EFA to CFA, particularly

when existing understanding of the domain and measures is not sufficiently advanced (Fabrigar & Wegener, 2011). Another reservation in regards to conducting a CFA was in regards to sample size. There is contentious discussion around sample size requirements for CFA with various rules-of-thumb including (a) a minimum sample size of 100 or 200 (Boomsma, 1982, 1985), (b) 5 or 10 observations per estimated parameter (Bentler & Chou, 1987), and (c) 10 cases per variable (Nunnally, 1967; Wolf, Harrington, Clark, & Miller, 2013). Whilst there is much debate around these guidelines, the present study sample size of 121 was deemed too small for adequate power and accuracy. For the above stated reasons, an exploratory factor analysis was conducted.

All items of the ambition scale (Duckworth et al., 2007), career ambition (Otto et al., 2017), drive (Lindberg & Rantatalo, 2015), conscientiousness (Jones et al., 2017) and career aspiration (Gray & O'Brien, 2007) were subjected to principal components analysis (PCA) using SPSS version 25. Prior to performing PCA, the suitability of data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 and above. The Kaiser-Meyer-Olkin value was .87, exceeding the recommended value of .6 (Kaiser, 1970, 1974) and Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance, supporting the factorability of the correlation matrix.

Principal components analysis revealed the presence of ten components with eigenvalues exceeding 1, explaining 35.2%, 9.9%, 5.3%, 4.7%, 3.6%, 3.3%, 2.9%, 2.5%, 2.5%, and 2.4% of the variance respectively. An inspection of the screeplot revealed a clear break after the third component. Using Catell's (1966) scree test, it was decided to retain three components for further investigation. This was further supported by the results of Parallel Analysis, which showed only three components with eigenvalues exceeding the corresponding criterion values for a randomly generated data matrix of the same size (42 variables x 121 respondents).

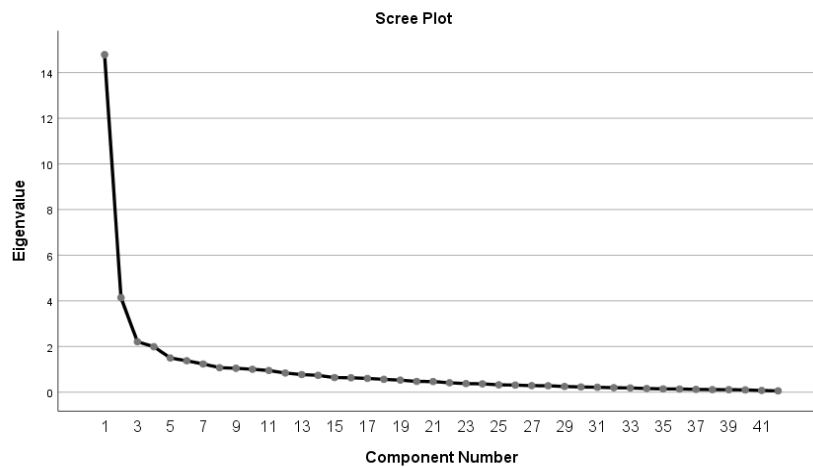


Figure 2. Scree Plot II

The three-component solution explained a total of 51.4% of the variance, with Component 1 contributing 36.1%, Component 2 contributing 10% and Component 3 contributing 5.4%. To aid in the interpretation of these three components, promax rotation was performed. The rotated solution did not reveal the presence of a simple structure. The pattern matrix revealed that all 5 items of the ambition scale loaded onto component 1, 5 of 9 components of career ambition loaded onto component 1 and 2 of 6 components of career aspiration loaded onto component 1, suggesting an overlap between ambition and career ambition. See Figure 3 for the Pattern Matrix.

Pattern Matrix			
	Component		
	1	2	3
I want to achieve the highest possible level in my work (CAMB1)	.85		
I am always prepared (CONSC1)	.81		
I aim to be the best in the world at what I do (AMB1)	.76		
I have the ambition to reach a higher position (CAMB2)	-.75		
I am ambitious (AMB2)	.73		
I hope to become a leader in my field (CASP1)	.68		
I like to be challenged in my work (CAMB3)	.64		
Achieving something of lasting importance is the highest goal in life (AMB3)	.63		
I think achievement is overrated (AMB4)	.62		

I am ambitious (CAMB4)	.61		
When I am established in my career, I would like to manage other employees (CASP2)	.61		
I am not really interested in achieving the highest possible levels at work (CAMB5)	.58		
A career is important for my self-actualization and self-development (CAMB6)	.58		.30
I would like to fulfill a top position (CAMB7)	.51		.31
I have set high goals for my career (CAMB8)	-.46		
I am driven to succeed (AMB5)	.43		
A career does not have priority in my life (CAMB9)	.40		
I go out of my way to get things I want (DRIVE1)	-.31		
When I want something, I usually go all-out to get it (DRIVE2)		.94	
If I see a chance to get something, I want I move on it right away (DRIVE3)		.91	
When I go after something, I use a "no holds barred" approach (DRIVE4)		-.91	
I pay attention to details (CONSC2)		.76	
I get chores done right away (CONSC3)		.74	
I carry out my plans (CONSC4)		.71	.39
I make plans and stick to them (CONSC5)		.68	-.49
I waste my time (CONSC6)	.37	.67	-.30
I find it difficult to get down to work (CONSC7)		.62	.30
I do just enough to get by (CONSC8)		.61	
I don't see things through (CONSC9)	.41	.57	
I shirk my duties (CONSC10)	.39	.54	-.41
I would be satisfied just doing my job in a career I am interested in (CASP3)			.75
I do not plan to devote energy to getting promoted in the organization or business I am working in (CASP4)			.53
When I am established in my career, I would like to train others (CASP5)			.52
I hope to move up through any organization or business I work in (CASP6)			.45
Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.			

Figure 3. Pattern Matrix

To further investigate the overlap between the constructs of ambition and career ambition, I calculated the confidence interval of rho where the correlation, r , observed within a sample of XY values can be taken as an estimate of rho, the correlation that exists within the general population of bivariate values from which the sample is randomly drawn (Hair et al., 2014). Upon calculation, the 95% confidence interval has an upper bound of .80 and, thus, it is not likely to be larger than that in the population (Hair et al., 2014). Whilst

acknowledging the similarity, this calculation also demonstrates an element of discriminant validity. However, this calculation alone is not robust enough to claim that the items have discriminant validity.

Whilst there is conflicting interpretation overlap between the constructs of generalised ambition and career ambition, there is still theoretical rationale to treat the constructs as distinct. As stated earlier in the chapter, ambition is a personality characteristic that is defined as “the persistent and generalized striving for success, attainment, and accomplishment” (Judge & Kammeyer-Mueller, 2012, p.759). Whilst career ambition presents similarly within a work and career context, it can not be identified as a personality characteristic, as it is uniquely applies to a work setting. As such, a person who does not work, can not have the personality characteristic of career ambition. Generalised ambition represents a broader, more foundational form of ambition and is as defined as a personality characteristic; thus distinguishing itself from the more developed and specific construct of career ambition (Elchardus and Smits; 2008; Judge & Kammemeyer-Mueller, 2012). Another distinction, theoretically, between ambition and career ambition is that ambition, as defined by Judge & Kammeyer-Mueller (2012) encompasses a generalised confidence inherent in a person with ambition. Whilst confidence most certainly would be advantageous, and perhaps often identified in people with career ambition, career ambition does not envelop this facet of personality (Elchardus and Smits; 2008). This confidence can also translate into outcomes not directly associated with a career, such as leadership in community organisations or sports teams. Confidence that presents as a part of career ambition would be excluded from these non-career contexts. Based upon this theoretical rationale, as well as preliminary evidence of statistical distinctness (e.g. boundaries as defined by Kline, 2015), the present study will integrate generalised ambition, as measured by the five-item scale developed by Duckworth et al. (2007), in the subsequent studies of this thesis.

Brief Discussion

The present study has provided preliminary evidence for the reliability and construct validity (convergent validity) of the 5-item ambition scale developed by Duckworth et al. (2007). As a result, it can be concluded that this scale is adequately devoid of random measurement error and has preliminary evidence of construct validity. It can be concluded on the basis of these findings and the earlier theoretical justification, that this 5-item ambition scale can be used in Study 3, which incorporates ambition as an independent variable. The predictive validity of the measure in relation to career success will be examined in subsequent sections of the thesis.

With regard to construct validity, the correlations between ambition and career ambition was among the highest. It would be useful to further explore the similarities and differences of these constructs in more detail in future research through confirmatory analytical techniques, such as SEM in larger samples (Kline, 2015). Furthermore, it would be interesting to directly compare career ambition and career aspiration for construct similarities and distinctions.

The correlations between ambition and career aspiration were also high. Like ambition and career ambition, they were highly correlated but considerably below the threshold of .90, thus allowing us to conclude them to be somewhat distinct. As noted earlier, ambition is broader and less specifically defined than career aspiration: ambitious individuals have a consistent striving, but with transient and undefinable goals; in contrast, career aspiration is clearly defined (e.g., obtaining a promotion). Their relatively high correlation does make sense in that both constructs identify a consistent striving. However, they also considerably differ because of the difference of definable outcome. Hence, the correlation results of ambition and career aspiration are compatible with the theoretical discussions about them.

Ambition and drive were moderately correlated ($r = .56$), consistent with the theoretical distinctions between the two constructs. Hence, it is reasonable to support the distinction between the two constructs as lying within drive being intertwined with motivation—that is, a process influenced by one’s relationship with another, and consequently being further distant from ambition (Bates, 1979; Yahalom, 2014). Interestingly, some literature uses the two constructs interchangeably (Judge & Kammeyer-Mueller, 2012; Lindberg & Rantatalo, 2015). The correlation results from this study challenge this interchangeable use and further determine the distinctiveness of drive and ambition.

Similarly, the correlation results between ambition and conscientiousness ($r = .40$) support the theoretical distinction between these two constructs. As a result, it can be substantiated that, while conscientiousness does represent some elements of ambition, it may be measuring other things, like emotion regulation ability and/or self-control (Ivcevic & Brackett, 2014).

Limitations. The present study is not without limitations. The sample used for the study was obtained through the researcher’s personal and professional network. Consequently, the respondent population may have been biased towards certain demographics and occupations. For example, 50% of respondents worked in professional environments and 32% worked in management roles. Potentially, this could have represented a more “ambitious” sample than a more generalised sample of respondent. Despite this, other occupations (labourers, tradespeople, scientists, movie producers, hair stylists, nursery workers, and self-employed respondents) were also represented in the sample. Other limitations include a lack of power to adequately validate the scale. As such, scale validations with higher power would be useful in future research. Further, despite the best efforts of the researcher to combat these issues, it is also necessary to acknowledge the limitation of self-

reporting in this study, as well as concerns around common method bias. To combat this, future research may avoid this limitation by implementing a study design with multiple reporting sources, such as co-workers also rating a person's ambition.

Conclusion

Ambition, though prevalent as a facet in many career and personality scales, has been largely overlooked as a freestanding construct. The present study has validated the 5-item ambition scale developed by Duckworth et al. (2007) by providing sufficient internal consistency and initial evidence of construct validity to be used in future personality, management, and social sciences research. The following chapter will discuss the purpose, method, findings, and implications of Study 2.

Chapter Three: Study 2

This chapter will discuss, in entirety, the design, analysis, results, and implications of Study 2 of this thesis. This study endeavours to measure objective luck events and the impact they have on the relationship between ambition and career success via the mediating roles of human and social capitals. However, while there are measures to quantify subjective attributional luck (André, 2006), chance events (Bright, Pryor, & Harpham, 2005), and serendipity (Williams et al., 1998), these existing measures do not capture the objectivity of luck events the present study intends to evaluate.

As discussed in the Literature Review, a primary concern when evaluating luck events is the ability to extract objectivity and steer away from the influence of attributional bias when recalling the occurrence of certain luck events. As stated earlier, attribution theory suggests that success is attributed to one's own personal character, hard work, and preparation, while failure is attributed to situational factors outside one's control (Hafer & Gresham, 2008). Further, and perhaps most importantly in the context of Study 2, there is substantive evidence that individuals have a distorted recollection of past events and distorted attributions of the causes of success or failure (Hafer & Gresham, 2008). Taken further, recollections of good events or successes are typically easier than recollections of bad ones or failures (Hafer & Gresham, 2008). As such, the attribution or misattribution of luck is a concern when constructing a measure of luck events that endeavours to incite the recollection of events as objectively and accurately as possible. This attributional bias is a concern that is acknowledged and actively considered during the process of creating a measure of events that will be used to help measure the impact of luck on construct relationships.

Upon consideration of the development of a measure for luck events, the existing literature suggests that the choice between a formative and a reflective specification should primarily be based on theoretical considerations regarding the causal priority between the

indicators and the latent variable involved (Cohen et al. 1990; Diamantopoulos & Winklhofer, 2001; MacKenzie, Podsakoff & Jarvis, 2005). Formative indicators are observed variables that are assumed to cause a latent variable (Diamantopoulos & Winklhofer, 2001). The use of formative (cause, causal) indicators involves the creation of an index rather than a scale (Diamantopoulos & Winklhofer, 2001). As luck is, in itself, defined by the events, and is a formative indicator because it is causal, the present study deemed the creation of a luck index the most appropriate form of measurement. Further, if the objective is explanation of abstract or ‘unobserved’ variance, formative indicators would give greater explanatory power (Diamantopoulos & Winklhofer, 2001). As the objective of the development of the luck measure is to explain the unobserved and abstract variance caused by luck, an index would provide greater explanatory powers. As such, an index of luck events will be created.

Hence, the present study aims to create, evaluate, and validate an index of luck events to be used in Study 3 of this thesis. To this end, a qualitative content panel validation was conducted. The following section outlines the design and methods used during the Study 2 content validation of objective luck events. This section will detail the item generation, sample obtained, procedures, and measures used in conducting the content validation, as well as the ethical considerations made. It will also detail the process used to distil the feedback received and amendments made to the final measure of luck items to be used in Study 3.

In the social sciences, a comprehensive understanding of any phenomena is established in part by the quality of measures that are used for inquiry (Hinkin & Tracey, 1999). According to Hinkin and Tracey (1999), one key indicator of quality is content validity, “defined as the extent to which a measure’s items reflect a particular theoretical content domain, [and] is a necessary precondition for establishing evidence for construct validity” (Hinkin, 1999, p. 175). However, despite the emphasis on the importance of content validity over the last several decades (Barrett, 1972; Cook, Warr, Wall, Hepworth, &

Cook, 1981; Schmitt & Klimoski, 1991), many researchers have failed to use the procedures for assessing an instrument's content validity (Hinkin, 1995). Content validity is first estimated through an extensive review of the relevant literature and consultation with subject matter experts (Tharenou et al., 2007). Hence, content validity assesses the extent to which the content of the measure is representative of the wider body of material it is aiming to assess (Tharenou et al., 2007). As such, the present study has extensively examined and evaluated the relevant literature on luck, chance, and serendipity in the literature review and has conducted Study 2 to demonstrate the content validity of the objective luck events used in this study.

Method

Research design.

Index development. The first step taken to create this index was to develop items that adequately reflected the definition of luck (Ma, 2002) guiding the present research. Hence, the initial item generation was conducted based on the existing literature on chance, luck, and serendipity (Bandura, 1982; Bright, Pryor, & Harpham, 2005; Dowding, 2017; Pluchino et al., 2018; Salomone & Slaney, 1981; Williams et al., 1998). Much care was taken to ensure each item was consistent with the established definition (luck defies human action and intention, has no purposeful control or intention, is unexpected and/or is not controllable; Ma, 2002), was an event, and could be evaluated with objectivity and without employing attributional bias, and as such, the item/event had occurred in the life of the respondent. To augment the initial set of items, I conducted a content validation by an expert panel to study how accurately the items reflected the luck construct.

Initial item generation. The present study followed a number of standardised guidelines in developing the index of objective luck events. Deductive methods involve item

generation based on an extensive literature review and pre-existing scales (Hinkin, 1995). As Hinkin (1995) suggests, the majority of existing studies use a literature review as the deductive method in item generation (Morgado, Meireles, Neves, Amaral, & Ferreira, 2017). I examined both published articles and works in progress from authors known to study luck/chance/serendipity (André, 2006; Booth & Kee, 2005; Bright, Pryor, & Harpham, 2005; Bright, Pryor, Wilkenfeld, & Earl, 2005; Gore, Holmes, Smith, Southgate, & Albright, 2015; Harper, 1996; Ma, 2002; Michaelson, 2008; Pritchard & Whittington, 2015). More specifically, I obtained both published articles and works in progress from authors known to be studying luck and examined these resources for construct definitions and examples of luck events (André, 2006; Booth & Kee, 2005; Bright, Pryor, & Harpham, 2005; Gore et al., 2015; Harper, 1996; Ma, 2002; Michaelson, 2008; Pritchard & Whittington, 2015). Lengthy questionnaires can lead to careless responding (Breaugh & Colihan, 1994), so the study endeavoured to develop a small number of items that would thoroughly capture the content domain (Hinkin, 1995). Using these guidelines, a measure of items was generated and then circulated among leading subject matter experts to determine whether the selected items had adequately sampled the domain (Hair Jr et al., 2014; Hinkin, 1998; Tharenou et al., 2007). The subject matter experts consisted of established organisational behaviour scholars who are Associate Professors or Professors in domestic and international research focused universities.

Content panel. The next step involved an expert panel to validate the content of the deduced luck items that were generated. When using an expert panel for content validation, experts should be provided with the construct definitions and asked to assess the items according to these definitions (Hair Jr et al., 2014; Hinkin, 1998; Tharenou et al., 2007). From their responses, items that do not align may be dropped, replaced, or modified (Hair Jr et al., 2014; Hinkin, 1998; Tharenou et al., 2007). Going further, Schriesheim, Powers,

Scandura, Gardiner, and Lankau (1993) advise that the panel rates the item's adequacy and then the researcher averages these ratings to assess their adequacy in representing the construct. Using a 4-point scale (1 = Not representative, 2 = Minimally representative, 3 = Moderately representative, and 4 = Strongly representative), respondents were instructed to indicate the extent to which they considered each of the following items to be representative of luck events by selecting the most appropriate response (Hair Jr et al., 2014). Each respondent was given the definition of luck being employed in the present study: "luck defies human action and intention, has no purposeful control or intention, is unexpected and/or is not controllable" (Ma, 2002, p.546). A description of the procedure will now follow.

Sampling and recruitment of content panel.

Sample. Members of a 12-person expert panel in relevant areas (organisational psychology, sociology, management) responded to the invitation to participate in this content validation. The respondents were comprised of the researcher and supervisor's professional networks. Hinkin (1999) states that this type of process requires only that respondents are not biased and possess sufficient intellectual ability to perform the item rating tasks. As such, the expert panel of the present study was more than adequate to complete this task.

Procedure. Panellists were contacted via email and asked to complete a short survey on the fit of each item with the construct definition (see Appendix C). Panellists were also asked to provide qualitative feedback about item content, overall conceptualisation, the appropriateness of scale language, and the format of the scale. The data for the present study was obtained through Qualtrics online survey software and then transferred into SPSS version 25 for statistical analysis. The feedback received was analysed, absorbed, and integrated into the subsequent and final measure of objective luck events.

Ethical considerations. The present study was approved by the MUHREC.

Participation in the study was voluntary, and consent was implied from the participant's completion of the survey, after reading the explanatory statement at the beginning of the survey.

Results

As previously discussed, the definition of luck guiding the development of this index is, "luck defies human action and intention, has no purposeful control or intention, is unexpected and/or is not controllable" (Ma, 2002). To be consistent with this conceptualisation and the COR-based theoretical explanation, developed items needed to contain the element of lack of control or intention and the element of being unexpected. To generate the items, a list of events that could be categorised as uncontrollable were created, in both distal (before career) and proximal (during career and later) sectors of life. The measure was compiled by reviewing the literature, examining relatively similar existing scales, asking experts in the area, and using personal anecdotes. Table 3 displays a preliminary index of objective luck events.

Table 3: Preliminary Index of Luck Events

Item	Lack of control	Unexpected
Unexpected financial windfall	X	x
Unintended exposure to a type of work or activity you found interesting	X	x
Received a job promotion for which you did not apply	X	x
Recruited for an external position that you did not seek		x
Seeking out a mentor who championed your career		
Forging an unexpected relationship with someone who helped your career	X	x
Completed additional education in your field that resulted in a promotion		

The following section will detail the feedback and results of the content validation for Study 2. Table 4 includes items in the content validation, the feedback received, the medians, and outcomes. Retained items have a median score of 3 or above. Items with medians of below 3 were either modified and retained according to panel feedback, or otherwise omitted. Omitted items were determined by the panel and researcher to be agentic actions, and thus not representative of Ma's (2002) definition of luck. For example, the item "Recruited for an external position that you did not seek" was omitted by the researcher, as the panel feedback stated that it was not obvious that the event was random, but rather dependent on one's reputation and track record. The item "Seeking out a mentor who championed your career" was omitted because the statement implies agency. "Completed additional education in your field that resulted in a promotion" was omitted because it characterised intentional behaviour. The respondents were also asked if there were any items that they think should be added to the measure of luck events. Answers included: "Learning a trade/studying/etc in an area that experiences unforeseen/unexpected demand or offers unforeseen/unexpected opportunities", "From a researcher's perspective, you can accidentally work on a problem (because your

advisor gave you an idea or a dataset) that later became a hot area”, “You may accidentally receive a placement in the prestigious PhD program because the other, more qualified, candidates decided to drop out last minute”, and “You could send an average quality paper to an editor who happens to love it and help you develop it better”. Items were then independently assessed according to which statements best reflected objective luck events. Inconsistent assessments were resolved during discussions with my supervisors. This process resulted in five retained items that best reflected the construct of interest, as reported below in Table 4.

Table 4: Content Validation for Study 2

Item	Feedback	Median (out of 5)	Result
Unexpected financial windfall	Antecedents could include intentional actions and it could be controlled to some extent by self or others	3.5	Retained
Unintended exposure to a type of work or activity you found interesting	The event could be controlled by someone e.g., supervisor	3.5	Retained
Received a job promotion for which you did not apply	This could be due to external agency and previous efforts at work	3	Retained
Recruited for an external position that you did not seek	Not obvious that it is random. Depends on one's reputation and track record.	2.5	Omitted
Seeking out a mentor who championed your career	The statement implies agency	1	Omitted
Forging an unexpected relationship with someone who helped your career	This is something you can control to some extent.	2.5	Modified and retained

Completed additional education in your field that resulted in a promotion	Intentional behaviour	1	Omitted
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Table 5: Final Index of Luck Events

Have you received an unexpected financial windfall (e.g., inheritance, unexpected capital gains)?
Have you been exposed to a new type of work or vocational activity that you unexpectedly found interesting?
Have you received an unexpected job promotion (e.g., appointed a new role for which you did not apply)?
Have you received unsolicited and/or unexpected career support (e.g., unexpectedly met someone who later helped your career)?
Did your vocation/trade/industry experience unexpected growth (e.g., builder and the housing boom)?

Brief Discussion

As stated, when developing the index of objective luck events for content validation through an extensive review of the literature, deliberate attention was taken to ensure each item presented was consistent with the established definition (luck defies human action and intention, has no purposeful control or intention, is unexpected and/or is not controllable; Ma, 2002, p. 546). Similar to the challenges in developing life events in personality studies, the development of luck events needed to avoid the inclusion of relatively subjective events. For example, according to Magnus, Diener, Fujita, and Pavot (1993) in the development of their life events list, the validity of using subjective events—events such as “You made lots of new

friends”—is questionable because personality may significantly influence responses to such items (Brett, Brief, Burke, George, & Webster; 1990; Schroeder & Costa, 1984). As such, responses to subjective events could be based on the participants’ perceptions of the event rather than its actual occurrence. However, when an analysis using “objective” events only was conducted (e.g., “got married” or “admitted into graduate school”), the problem of perceptual biasing was reduced (Magnus et al., 1993). Hence, to classify an event as “objective”, it must be externally verifiable (observers can all agree as to whether the event actually occurred; Magnus et al., 1993). To the extent that an event is verifiable by others and is so highly salient that it is unlikely to be misremembered, it will be classified here as objective. As such, the present study applied these objective events guidelines made explicit by the work on objective life events by Magnus et al. (1993). Taken further, the items were designed to be answered with a “yes” or “no” answer, as to whether the item/event had or had not occurred in the life of the respondent.

The initial iteration of the preliminary measure of luck events included the following items: being born male, place of birth, year of birth, birth order, number of siblings, and family socioeconomic background. Despite these items being objective and fitting Ma’s (2002) definition of luck in many capacities, these items were omitted because they did not fit the criteria of being an event, instead being deemed demographic descriptors. For example, being born a male may be lucky, but it is not a luck event. Further, being that the constructs of interest embodied a careers context, the items were also considered to be too distal to be considered within the career success outcomes of the research model (to be explicitly explained in Study 3). However, some of these distal items were retained as control variables, such as gender.

The primary feedback received about objective luck event items that were omitted was that the event invoked agency, and thus would have an element of controllability.

Agency, or internal LOC, is the belief that one has control over one's life (Wu, Griffin, & Parker, 2015). This feedback is relatable to some of the omitted items, for example: "Seeking out a mentor who championed your career", "Completed additional education in your field that resulted in a promotion". In the first example ("Seeking out a mentor who championed your career"), there was agentic action to seek out the mentor, thus it was not by luck that this mentor became a part of the individual's life and career trajectory. Further, it is an outcome that was, in some ways, controllable by the subject. Similarly, in the second example ("Completed additional education in your field that resulted in a promotion"), the act of pursuing further education is a controllable act that, based upon the principles of human capital, could result in a positive career outcome (Ng et al., 2005). Hence, it cannot be defined as an uncontrollable event. The consistent threads of feedback when establishing the objectivity of a luck event were thus centred around the notions of intentionality and control.

Theoretical and practical implications. While luck and similar constructs (chance, serendipity) are discussed in the current literature, the understanding of if and when luck impacts a trajectory of career success remains elusive. First, existing research often falls short when examining luck within a work context, as it remains heavily biased by attribution of events. For example, the study by Bright Pryor, & Harpham (2005) introduced the Chance Event Survey which was constructed for the purposes of their study and consisted of demographic items and two questions. The first question asked participants to rate the overall influence of chance events on their career choices, and the second question asked participants to rate the influence of 15 categories of chance events on their career choices (Bright, Pryor, & Harpham 2005). While this survey endeavours to capture how people allocate and attribute luck, the attributional bias becomes significant and strays from capturing the luck event as simply an objective occurrence. In this way, the present study expands the

theoretical understanding of objective luck events within a careers context and provides an alternative to interpreting luck or chance under the influence of human attribution.

Practically, the development and content validation of an index of objective luck events is a relevant contribution to the academic and business community. The present study provides a content validated index of luck events to be used in future careers and organisational research.

Limitations. No study is without limitations, and the present study is no exception. First, a content panel of experts was used to validate the measure of objective luck events. While the content panel was certainly comprised of scholars with exceptional knowledge within the organisational sciences, there were very few specific experts on luck (as few exist). As such, the addition of specific luck experts and theorists would have provided additional rigour to the present study. Additionally, the content panel of experts was comprised of 12 experts. Ideally, a larger content panel of experts would have been desirable, however, due to the shortage of experts, a panel of 12 experts was deemed adequate. Further, a larger list of initial luck items would have been beneficial to consider and revise into the refined final list of luck events. However, due to the specific nature of the construct, the initial list was deemed sufficient. It could also be challenged whether the list item “financial windfall” measures luck in a different domain because it is the only non-work item in the index. However, a financial windfall would also impact the “work” domain, as it will influence the kind of work, necessity of work, career choice, ability to upskill/afford study within the work domain. As the outcomes for this study are career related, it is feasible that a “financial windfall” would be beneficial to someone in their career.

Conclusion

The aim of the present study was to validate the study's index of objective luck events to be used in (the main) Study 3 of this thesis. Through a thorough review of the existing literature on luck, and a content panel validation of objective luck events, a 5-item index of objective luck events within a careers context was developed. As such, the present study produced a validated index of luck items to be used in Study 3, as well as in research within the wider social sciences and organisational behaviour disciplines.

Chapter Four: Study 3

To recap, this thesis seeks to understand the moderating role of luck in the translation of ambition into career success (extrinsic career success and career satisfaction), via the mediating roles of human and social capitals. Study 1 validated an ambition scale developed by Duckworth et al. (2007) to be used as the independent variable in the present Study 3. Study 2 identified and validated a measure of objective luck events to be incorporated as a hypothesised moderator of the indirect effects of ambition on career success via human capital and social capital. As such, the outcomes of both Study 1 and Study 2 will be incorporated into the larger, causal model evaluated in Study 3, reported in this chapter. As outlined earlier, this thesis contributes theoretically to the literature by identifying a boundary condition of the ambition-career success relationship when mediated through human capital and social capital. This knowledge will allow us to better understand the theoretical scope of factors (outside one's control) that influence career success, and also to better prepare future workers for their career development processes by acknowledging and setting expectations around the role that luck events may play. In the following chapter, I will first discuss the COR theory (Hobfoll, 2001) and how it will provide the foundation for the hypotheses in the present study. Next, the hypotheses will be explained and stated, followed by a section of methods that guided the research design for Study 3. Following this, the results, discussion, limitations, and directions for future research will be discussed.

Theory and Hypotheses

Conservation of Resources theory. As stated in the literature review, Study 3 employed Hobfoll's (2001) COR theory, which proposes that "individuals are motivated to protect their current resources (conservation) and acquire new resources (acquisition)" (Hobfoll, 2001, p. 338). In COR theory, resources are defined as objects, states, conditions, and other things that people value (Hobfoll, 2001). The value of resources "varies among

individuals and is tied to their personal experiences and situations” (Hobfoll, 2001, pg. 4).

Study 3 specifically applies COR theory by examining how luck events moderated the translation of ambition into career success, via human capital and social capital. More specifically, luck events can be a source of resource gain or loss and this resource acquisition will then facilitate or intensify the acquisition of other resources—like human capital and social capital. The present study will examine luck as a source of resource gain and leave the investigation into luck as a source of resource loss for future studies.

As discussed in earlier chapters, COR theory has emerged as one of the most commonly cited theories in organisational behaviour and social sciences literature (Diestel & Schmidt, 2012; Hobfoll, 1989, 2001; Kühnel, Sonnentag, & Bledow, 2012) and initially emerged as a theory of stress and coping (Hobfoll, 1989). Prior to COR, researchers tended to avoid the problem of defining stress, and studied stress without reference to a clear framework (Hobfoll, 1989). Consequently, a stress model called the model of COR was introduced (Hobfoll, 1989). COR’s resource-oriented model was based on the supposition that people strive to retain, protect, and build resources, and that what is threatening to them is the potential or actual loss of these valued resources (Hobfoll, 1989). As such, the organisational behaviour and social sciences literatures have used the broadness of the definition to apply the theory in a wide variety of ways (Chen et al., 2009; Diestel & Schmidt, 2012; Kühnel et al., 2012; Lee & Ashforth, 1996; Shin, Taylor, & Seo, 2012). As a reminder, there are two core tenets of COR theory. The first is primacy of resource loss (Hobfoll, 1989) and the second is resource investment (Hobfoll, 1989). The second tenet of resource investment consists of four corollaries: (1) individuals with more resources are better positioned for resource gains, while individuals with fewer resources are more likely to experience resource losses; (2) initial resource losses lead to future resource losses; (3) initial

resource gains lead to future resource gains; and (4) lack of resources leads to defensive attempts to conserve remaining resources (Hobfoll, 1989).

The present study employed COR theory and, in particular, its second tenet as the anchoring theory of the conceptual model in Study 3. I will now turn to applying COR theory to explain how luck moderates indirect effects of ambition on career success, via human and social capitals.

Ambition and human capital. Human capital typically refers to individuals' educational, personal, and professional experiences that can enhance their career outcomes (Judge et al., 1995; Judge et al., 2010). As stated by Becker (1964), human capital consists of the skills and knowledge that individuals acquire to enhance their potential productivity and success in the labour market. Human capital is commonly operationalised in terms of educational and training attainments and work experience (Choudhury, 2010).

According to Hobfoll (1989, 2001), a resource is defined as things that people value, with an emphasis on objects, states, conditions, and other things. The organisational sciences have applied this definition to many sorts of resources such as resilience, emotional intelligence, and conscientiousness (Halbesleben et al., 2009, 2014; Shin et al., 2012; Liu et al., 2008). Ambition is a personal characteristic that can be considered a resource. More recent critics (Halbesleben et al., 2014) of Hobfoll's (2011) resource definition clarify that identifying and categorising resources is different from defining them, and instead define resources as anything perceived by the individual as instrumental to facilitating goal attainment (Halbesleben et al., 2014). First, ambition can be interpreted as a condition of a person because it is a personal characteristic that would be perceived by the person who had it as a resource that assisted them in obtaining their goals. For example, a person who has ambition is likely to believe that their ambition (a resource) has helped them to achieve a goal, such as completing a tertiary degree. Following this logic, ambition can be identified as

a resource. Further, Hobfoll's (1989) list of COR resources includes "Motivation to get things done". As this list item mirrors ambition conceptually, it is reasonable to categorise ambition as a resource because it is a condition that helps an individual to get things done (e.g., achieve their goals). Next, ambition is also similar to other constructs—like conscientiousness and resilience—that have previously been established in resources in the organisational sciences literature (Halbesleben et al., 2009; Shin et al., 2012; Liu et al., 2008). Hence, it is probable that a person who has high levels of ambition would identify and consider their ambition to be a valuable resource that enables their success, further substantiating the validity of identifying ambition as a resource based upon the COR framework. According to the second tenet of COR theory (people with existing resources are better able to invest more resources into acquiring more resources), we can expect that ambitious people would gain more attainment as a resource investment to protect themselves from a future loss of achievement, as well as strive for increased resources. As such, one way for an ambitious person to invest in acquiring more resources is by investing in their development of human capital. Practically applied, a person who has the resource of ambition will strive to acquire more resources by pursuing more education (e.g., tertiary degree), and also, therefore, more human capital. This theoretical reasoning is substantiated by existing empirical evidence linking ambition and human capital, as seen in Judge and Kammeyer-Mueller's (2012) work that found ambition to be positively related to the quantity of educational attainment. As such, according to the second tenet of COR and existing ambition literature, we can anticipate that ambition will likely relate positively with human capital.

Human capital and career success. A high level of human capital signals to organisations that job applicants deserve to be hired because of their accumulated job-relevant knowledge (Ng & Feldman, 2010a). Using Hobfoll's (1989, 2001) definition,

human capital can be interpreted as a resource because it is identified explicitly in Hobfoll's (2001) list of COR resources: advancement in education or job training. Further, human capital consists of educational attainment and job training which, according to the definition of resources by Halbesleden et al. (2014), are something that a person would believe would help him or her achieve goals. Hence, according to COR theory and Hobfoll's (2001) list of COR resources, human capital can be determined to be a resource. Further, and in congruence with COR theory, the additional resources acquired from this investment in human capital (resource) influences the positive trajectory of career success because these additional resources yield more resources (more career success) and protect against further resource loss.

Following the logic of signalling theory, human capital relates to career success because it signals to the labour market that a person is worthy of higher income or promotions (e.g., career success; Ng et al., 2005; Ng & Feldman, 2010a; Spence, 1974). Spence (1974) defines a signal as an activity or attribute that, by design or accident, alters the beliefs or conveys information to others. Signals are a form of credible communication that transmits information from sellers to buyers (Spence, 2002). According to Arrow (1973) and Spence (1973, 1974), employers use educational attainment to identify individuals with certain valuable "innate" traits that cannot be observed directly. It is argued that education is used by employers as a signal about an applicants' potential productivity, including their ability to learn on the job. From this perspective, it is reasonable to anticipate that a person who acquires human capital will credibly signal to employers that they are desirable applicants worthy of employment within their organisation, thus positively impacting their career success. As human capital is a signalling device, it is plausible that employees with more human capital will be granted more career rewards that they deem intrinsically satisfying (e.g. more interesting work, more development opportunities, more resources and

support to accomplish their career goals etc). Using the above logic, as well as existing human capital and career success empirical evidence, we can expect human capital to be positively related to career success, and as such, the present study anticipates that human capital will be positively related to career success (Ng et al., 2005; Ng & Feldman, 2010a). Whilst it is recognised that extrinsic and intrinsic (career satisfaction) can represent different outcomes of one's career experience, the phrase "career success" is used in this theoretical discussion, as well as in the Ng et al. (2005) meta-analysis to encompass both components of the construct. A more in-depth differentiation of these two aspects of career success is discussed in subsequent chapters. The present study hypothesises that:

H₁: Human capital will mediate the positive relationship between ambition and (a) extrinsic career success and (b) career satisfaction.

Ambition and social capital. Coleman (1990) states that an individual's social capital is his or her network of social connections that assist him or her functioning in society. Social capital, within the lens of career theory, fits the "knowing whom" dimension of social relationships of employees (Arthur, Claman, & DeFillippi 1995; Parker, Khapova, & Arthur 2009; Singh et al., 2009). According to Coleman (1990), social capital is created when the relations among people change in ways that facilitate influential action. Social capital is often conceptualised in terms of network structure and social resources (Seibert et al., 2001).

Similar to the relationship between ambition and human capital, ambition could also facilitate the attainment of social resources. Hence, under the second tenet of COR theory, we can interpret that an ambitious person will invest resources, such as time or energy, to form social relationships with influential people as a means to acquire more resources. This investment would also be conducted because this person would also believe this resource

would help him or her to attain goals. For example, an ambitious person will be more likely to invest other resources (time, energy) into developing their professional network and social relationships to acquire more resources, thus increasing their social capital. As such, ambition is likely to relate positively to social capital.

Social capital and career success. Social capital can provide significant advantage for employees in their careers (Adler & Kwon, 2002) as strong professional networks can provide access to information, resources, and career sponsorship (Seibert et al., 2001). Social capital characteristics are explicitly described in Hobfoll's (2001) list of COR resources, such as "support from co-workers," and "people I can learn from". Further, social capital is something that a person would also believe would help him or her achieve goals. According to Hobfoll's (2001) list of COR resources and the definition by Halbesleben et al. (2014) being something that a person believes helps them attain their goals, social capital can be identified and defined as a resource. Social capital, as a resource, can translate to increased salary, promotions, and career satisfaction, as seen through existing social capital literature (Seibert et al., 2001). Social capital is positively related to career satisfaction and hierarchical advancement (Seibert et al., 2001) and a major contributing factor to career success (de Janasz & Forret, 2008). Furthermore, Higgins (2000) has found that multiple developmental relationships are associated with greater work satisfaction. Thus, based on COR theory and existing social capital and careers literature, we can anticipate that social capital will be positively related to career success.

In summary, COR theory provides a compelling theoretical underpinning for the anticipated relationship between ambition and career success (extrinsic and career satisfaction) via human capital and social capital. Hobfoll's (1989) COR theory states under tenet two that individuals with more resources are better positioned for resource gains, and initial resource gains lead to future resource gains. Just as ambition, human capital and social

capital have been established as resources, and it is reasonable to expect that, based upon the second core tenets of COR, ambition (a resource) will allow for more investment in human capital and social capital, and that human and social capitals will in turn facilitate additional resource acquisitions (career success).

Putting the above arguments together, the present study expects that human capital will mediate the relationship between ambition and extrinsic career success, as well as the relationship between ambition and career satisfaction. Following a similar logic, the present study also anticipates that social capital will mediate the relationship between ambition and extrinsic career success, as well as the relationship between ambition and intrinsic career satisfaction. As such, the present study hypothesises that:

H₂: Social capital will mediate the positive relationship between ambition and (a) extrinsic career success and (b) career satisfaction.

The moderating effect of luck. Hobfoll's (1989) COR theory highlights a diverse range of resources that people value. For example, resources identified in Hobfoll's COR resources (2001) include: a good marriage, time to sleep, personal health, sense of humour, more clothes than needed, stable employment, medical insurance, help with childcare, and hope. The present study argues that some of these resources are likely to be acquired by luck events. The second corollary of Hobfoll's (1989) COR theory, as discussed earlier, reflects the concept that people with more resources are better able to invest resources to acquire more resources. A luck event may be considered a source of unplanned or uncontrolled resources gain. For example, an unanticipated inheritance can produce additional resource gains in the form of household assets. I refer to this as a resource-supplying luck event. This gain can facilitate the positive influence of ambition on human capital and social capital; a luck event can enhance a resource gain and, consequently, a resource driven outcome. Assume an ambitious person is currently enrolled in an arts degree program at university.

This person also works part-time to supplement his/her living expenses. This person inherits an unexpected sum from a distant relative, thus experiencing a luck event. This unanticipated money allows this person to quit his/her part-time job and reallocate his/her time to study. With this surplus of time, this person is able to complete a double degree of, not only arts, but also law. As a result of the resource-supplying luck event, this person achieves more human capital (educational attainment) because the luck event has intensified the effect and relationship between ambition and human capital. Consistent with COR's second tenet, inheriting unanticipated money (a luck event) intensifies their ability to potentially acquire more resources (an additional law degree). As a result, more resources are available that enable a person to invest in acquiring more resources and the translation of ambition to human capital is intensified when luck is present. Hence, the present study hypothesises that resource-supplying luck will moderate the relationship between ambition and human capital, such that the intensity of the relationship between ambition and human capital will be stronger in the presence of resource-supplying luck.

H₃: Luck events will moderate the relationship between ambition and human capital, such that the positive relationship will be stronger when a person experiences more resource-supplying luck events, as opposed to fewer resource-supplying luck events.

Following the same logic, it is reasonable to expect that resource-supplying luck will also moderate the relationship between ambition and social capital. As stated earlier, the second tenet of COR tells us that people must invest their resources to protect themselves from future resource loss, as well as to gain resources. As such, the effect of ambition can be intensified by a resource-supplying luck event and, consequently, more social capital can be obtained because the additional, unanticipated resource has increased the intensity of the effect between ambition and social capital. As such, the resources gained as a result of the luck event facilitates the intensity of the relationship between ambition and social capital, and

consequently results in more social capital. For example, an ambitious person intends to spend time attending networking events to build their personal network. This same person receives an unexpected financial windfall, which allows this ambitious person to join a prestigious country club in the area known for having influential and successful members. They now network at the country club and, as a result, develop an incredibly substantial network of influential people. As a result of the resource-supplying luck event (unexpected financial windfall), this person has had more available resources with which to develop a large and influential professional network. As such, the present study anticipates that

H4: Luck events will moderate the relationship between ambition and social capital, such that the positive relationship will be stronger when a person experiences more resource-supplying luck events, as opposed to fewer resource-supplying luck events.

Similarly, a resource-supplying luck event can intensify the relationship between human capital and career success. According to the second tenet of COR, a person with a certain level of educational attainment will reinvest this education to not lose future opportunities, but also to acquire more resources (e.g., salary). Theoretically, and consistent with the second tenet of COR, a resource-supplying luck event will intensify the relationship between human capital and career success, and more resources will then be reinvested to achieve a greater outcome: career success. For example, a person has recently completed his/her TAFE course to become a builder and is using this educational qualification to begin his/her career as a builder and achieve a good yearly wage. Unexpectedly and uncontrollably, Australia experiences a housing boom. This person becomes a more successful builder in a shorter amount of time because of the housing boom (luck event). Because of the luck event, the effect of human capital (TAFE degree) on career success is intensified. Thus, the resource-supplying luck event (the housing boom) has intensified the

effect of the human capital and career success relationship for the person with the TAFE diploma.

This outcome can also be anticipated when considering Spence's (1974) signalling theory. The theory is founded on the premise that one party (such as a prospective employee), has complete information, while external parties (employers), have to rely on what the seller is willing to share (Bergh & Gibbons, 2011; Nelson, 1970). One way for buyers to reduce their risks is to identify observable and alterable characteristics that affect the conditional probability of the seller's performance (Bergh & Gibbons, 2011). These characteristics are known as an activity or attribute that, by design or accident, alters the beliefs of (or conveys information to) others (Bergh & Gibbons, 2011; Spence, 1974). As such, signals are a form of credible communication that transmit information from sellers to buyers (Bergh & Gibbons, 2011, Spence, 2002). Bergh and Gibbons (2011) argued that education does not enhance productivity but, rather, is used by employers as a signal about an applicant's potential productivity, including their ability to learn on the job. Thus, it can be argued that wages rise with education, because more capable individuals experience less disutility from education and thus obtain more of it (Bergh & Gibbons, 2011). Following this logic, it is reasonable to deduce that human capital can signal value to the employment market (the investment), which is then rewarded by the market in terms of better salary (the subsequent resources acquired). Hence, education is a signal enabling career success.

When resource-supplying luck events occur, they can intensify the visibility of the signal, thus intensifying the relationship between human capital and career success outcomes (both extrinsic and intrinsic). As such, it is reasonable to anticipate that resource-supplying luck will moderate (and in this case intensify) the relationship between human capital and career success.

H_{5a-b}: Luck events will moderate the relationship between human capital and (a) extrinsic career success (salary and occupational prestige) and (b) career satisfaction, such that the positive relationship will be stronger when a person experiences more resource-supplying luck events, as opposed to fewer resource-supplying luck events.

Using Hobfoll's (1989) COR theory as the grounding principle for the present study, I also anticipate luck will moderate the relationship between social capital and career success (salary, occupational prestige, and career satisfaction). COR tells us that an individual who has greater social capital (a resource) will likely have more career success than an individual who has less social capital because this person will invest their social capital resources to influence and intensify the trajectory of their career success. When a resource-supplying luck event occurs within this relationship, there are more resources for investment into this success. As such, this same person has a strong network (social capital) that encompasses both professional and personal contacts and (as an example) receives an unanticipated financial inheritance that affords this person to send his/her children to a prestigious private school. Through the school, the person meets and socialises with influential and successful parents of other children who ultimately and personally recommend this person for a job at the organisation they work for. Hence, the resource-supplying luck event (unexpected financial inheritance) intensified the translation of social capital to career success.

Further, and similar to the reasoning involving human capital, this outcome can be justified when considering Spence's (1974) signalling theory that states that signals, like education or personal/professional contacts, are forms of credible communication that transmit information from sellers to buyers (Bergh & Gibbons, 2011, Spence, 2002). Thus, social capital may not itself enhance an individual's credibility but, rather, is used by employers as a signal about an applicant's potential ability to network effectively, both

internally and externally. Further, their existing social capital may provide access to a broader relevant network, thus signalling reach and influence that may assist in career outcomes. A resource-supplying luck event, such as a financial windfall, will intensify this anticipated trajectory, such that the relationship between social capital and extrinsic career success will be stronger when the luck event is present. For example, this luck event has provided resources for the individual to become a part of the prestigious private school network that will strengthen the social capital of the individual and facilitate a more intensified influence over their ultimate career success. Their social capital is further developed as a result of the moderating luck event, making their signal to the buyer (employer) stronger and more compelling. As such, based upon COR and signalling theories, the present study predicts that the relationships between social capital and salary, occupational prestige, and career satisfaction will intensify when luck is present.

H_{6a-b}: Luck events will moderate the relationship between social capital and (a) extrinsic career success (salary and occupational prestige) and (b) career satisfaction, such that the positive relationship will be stronger when a person experiences more resource-supplying luck events, as opposed to fewer resource-supplying luck events.

Moderated mediation. Based upon previous literature (Hassan, 2007; Judge & Kammeyer-Mueller, 2012; Ng et al., 2005) and Hobfoll's (1989) COR theory, the present study expects ambition to be positively related to human and social capitals which, in turn, should relate positively to career success (salary, occupational prestige, and career satisfaction). As stated, Hobfoll's (1989) COR theory indicates that individuals with more resources are better placed for resource gains and prior resource gains lead to future resource gains. As discussed earlier, ambition, human capital, and social capital can be identified as resources, and as such, will allow for more investment in resource gains (human capital and

social capital) that will subsequently result in greater resource investment (extrinsic and intrinsic career success). However, I also anticipate that the strength of this mediated relationship is likely to depend on resource-supplying luck.

Resource-supplying luck events (e.g., unanticipated financial inheritance) may occur at both first (*H3–H4*) and second stages (*H5a–b–H6a–b*) of the mediation process. A resource-supplying luck event will strengthen the mediation effect at both links in the mediation chain: the translation of ambition to human capital (first-stage), and the translation of human capital to extrinsic career success (second-stage). As such, and according to COR, more resources will translate to more investment into future resources in an effort to obtain more resources and protect against future resource loss. As an example, an ambitious person obtains a higher degree and/or develops a strong network of friends and colleagues which sends out signals to organisations, or outsiders, that allow him/her to get a good job with a good salary and high occupational prestige in management consulting. This same person experiences resource-supplying luck events that result in the acquisition of more resources (more social capital, another relevant degree, more sponsorship) to invest in future resources. Resource-supplying luck events should moderate (intensify) the strength of the relationships between ambition and human/social capital and human/social capital and career success because the intensity and visibility of their signals are intensified, and ultimately, the strength of the mediated relationships to ambition and career success (intrinsic and extrinsic) via human capital and social capital also increase. As the objective luck events developed in Study 3 are resource-supplying, they increase the intensity of the signal to outsiders, and thus indicate that the individual has greater resources. Thus, according to COR theory (which states that individuals with more resources are better positioned for resource gains and prior resource gains lead to future resource gains), these greater resources will intensify the existing

mediated relationships between ambition and career success, via human capital and social capital.

Using COR's second tenet and elements of Spence's (1974) signalling theory, I argue that resource-supplying luck will strengthen the positive relationships between ambition and human capital (first-stage moderation) and ambition and social capital (first-stage moderation). Additionally, I expect resource-supplying luck to influence the relationships between human capital and career success (second-stage moderation), as well as the relationships between social capital and career success (second-stage moderation). Therefore, I hypothesise a 2-stage moderated mediation model. See Figure 4 for a visual depiction of the study hypotheses.

H_{7a-b}: Luck events moderate the strength of the mediated relationship between ambition and (a) extrinsic career success (salary and occupational prestige) and (b) career satisfaction, via human capital, such that the positive indirect effects will be strongest when resource-supplying luck events are higher at both first- and second-stage moderation.

H_{8a-b}: Luck events moderate the strength of the mediated relationship between ambition and (a) extrinsic career success (salary and occupational prestige) and (b) career satisfaction, via social capital, such that the positive indirect effects will be strongest when resource-supplying luck events are higher at both first- and second-stage moderation.

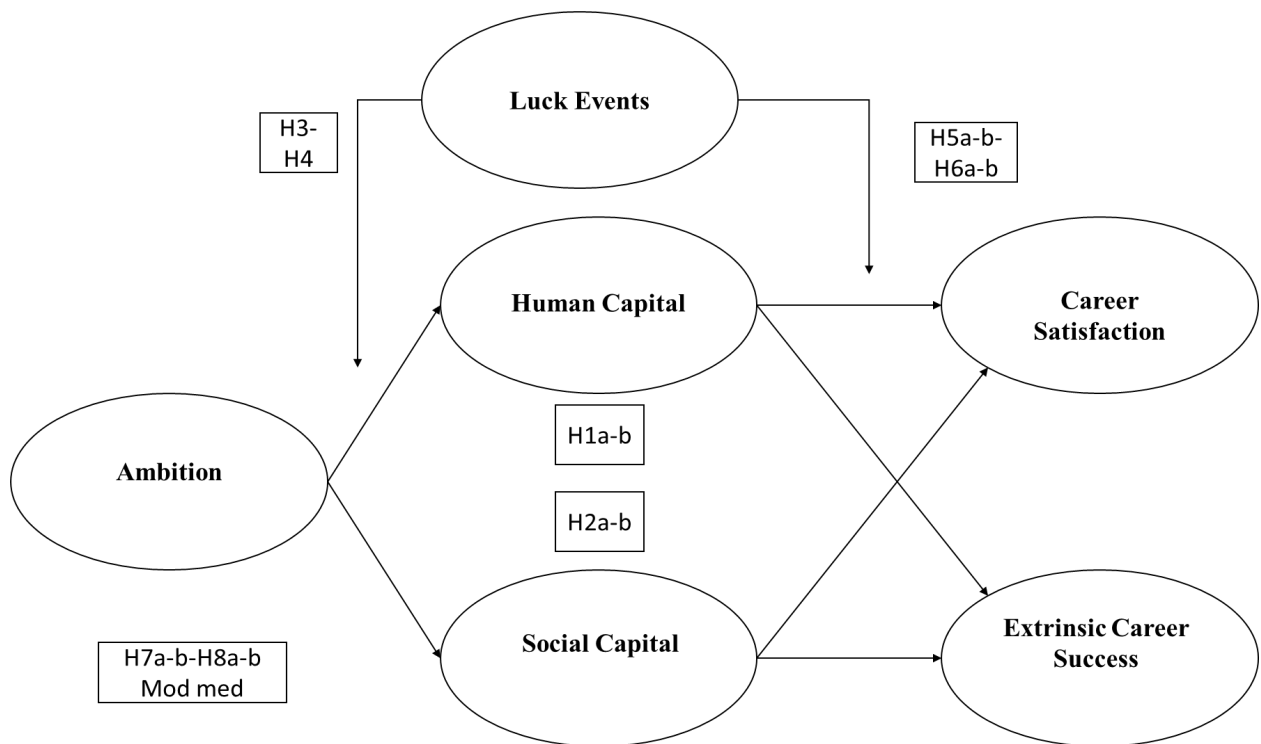


Figure 4: Research Model with Hypotheses

Method

Study 3 is a test of the conceptual model seen above. The following section outlines the design and methods used in Study 3. It will detail the sample, procedure, measures, and method of analysis used, a description of the pilot study, as well as the ethical considerations addressed during the study. This section will also outline the methods used for the study design, the study execution, and the approach for the anticipated analysis.

Research design. As common-method variance (CMV) is a widespread issue within the management and organisational behaviour fields, it is imperative that researchers address it thoroughly (Chang, van Witteloostuijn, & Eden, 2010). CMV has been identified as a significant concern in the context of behavioural and industrial/organisational psychology research (Bagozzi, 2011; Lance, Dawson, Birkelbach, & Hoffman, 2010; Malhotra, Kim, & Patil, 2006; Podsakoff, MacKenzie, Lee & Podsakoff, 2003; Spector, 2006). Biased results

can occur when the assessment of measured variables rely on a common method that produces systematic variance and significantly distorts the observed relationships (Fuller, Simmering, Atinc, Atinc, & Babin, 2016; Ostroff, Kinicki, & Clark, 2002; Spector & Brannick, 2009). As a result, these biases may potentially inflate or deflate correlations resulting in an increase of Type II error and compromising the internal validity of empirical results (Babin & Zikmund, 2015; Conway & Lance, 2010; Williams & Brown, 1994).

Podsakoff et al. (2003) identifies that a potential remedy for CMV is to separate the measurement of the predictor and criterion variables. This may be accomplished by creating a temporal separation by introducing a time lag between the measurement of the predictor and criterion variables (Podsakoff et al., 2003). However, Podsakoff et al. (2003) also states that, although time lags may help reduce common-method biases because they reduce the salience of the predictor variable or its accessibility in memory, if the lag is inordinately long, it could mask a relationship that really exists. Similarly, if the time lag is too long, then respondent attrition may also become a problem (Podsakoff et al., 2003). As such, to test the model and hypothesis, as well as combat CMV, this study employed a time-lagged survey design that gathered survey data at two timepoints separated by two weeks, as two weeks was determined long enough to create a temporal separation, but not long enough to result in high attrition. The Time 1 survey included the measure of ambition. The Time 2 survey included measures of human capital, social capital, career outcomes, and luck events. The design allowed the collection of quantitative data on which multivariate analyses were performed to investigate the associations between independent, dependent, moderating, and mediating variables, while also accounting for the effects of control variables. I will now detail and explain the procedure followed, the respondents included, and the measures utilised in this research study.

Sampling and recruitment of respondents.

Sample. The target population for this study consisted of adults aged 25–65 years who were employed either full-time or part-time. Based upon existing studies that measure career outcomes, this study recruited respondents from a variety of professional backgrounds (Bright, Pryor, & Harpham, 2005, 2004; Judge, 2010; Ng et al., 2005).

Methodologists (Brutus, Gill, & Duniewicz, 2010; Tharenou et al., 2007) recommend the employment of random, stratified, or other probability sampling approaches that increase the representativeness of samples studied, and consequently the external validity of findings. However, most studies, including the present study, are invariably inhibited by practical constraints that make obtaining a random or probability sample virtually impossible (Sackett & Larson Jr, 1990; Shadish, Cook, & Campbell, 2002). As such, this study relied on non-probability convenience sampling, where respondents were identified in the study primarily due to ease of accessibility through an online panel. An online panel is an electronic database of registrants who have indicated a willingness to participate in future web-based research studies (Callegaro et al., 2014). Online panels provide researchers with a convenient way to reach a potentially unlimited number of participants while also managing costs (Buhrmester, Kwang, & Gosling, 2011). As such, they are ideal for scale development or pilot studies with multiple iterations (Porter, Outlaw, Gale, & Cho, 2019). Further, online panels facilitate intensive research designs such as those requiring temporal separation (e.g., multi-wave field studies) with adequate retention rates (Chandler & Dahlquist, 2014; Porter et al., 2019). Numerous past studies have used online panels (e.g., Courtright, Gardner, Smith, McCormick, & Colbert, 2016; DeCelles, DeRue, Margolis, & Ceranic, 2012; Li, Lee, Mitchell, Home, & Griffeth, 2016; Long, Bendersky, & Morrill, 2011; Quade, Greenbaum, & Petrenko, 2017) in an effort to address the biased or homogeneous samples of alternative data collection methods by sampling from adult employees in a wide variety of occupations and organisations (Montes & Zweig, 2009). Porter et al. (2019) reviewed over a decade of online

panels used by management scholars and suggested that our field has largely embraced and accepted online panels and that there is a growing legitimacy of online panels in the field. Qualtrics administered the panel in the current study.

Power analysis. In management research, small effects are usually found with interactions (moderation; Tharenou et al., 2007). It is imperative to determine a sample size based upon statistical power. Power is the long-term probability of rejecting the null hypothesis and should be set to a minimum of .80 (Tharenou et al., 2007). As such, sample sizes need to be large enough to detect the minimum size of hypothesised effects. Power analysis was employed to determine sample size adequacy for mediation, moderation, and moderated mediation analyses for hypothesis testing. A power analysis estimates the number of cases required to achieve sufficient power to detect an effect. Tabachnick and Fidell (2013) provide a formula for calculating sample size requirements for a medium size effect (.26). Their suggested formula is ($N \geq 104 + m$), where m assumes a coefficient of .26 and is the number of predictors included in the final model (Tabachnick & Fidell 2013). As the present study includes six variables (including control variables) in the final model predicting extrinsic career success and career satisfaction, the minimum required sample size is $N = 110$. This study's sample of 417 (with the 12 outliers removed) exceeds the minimum requirement and was therefore deemed sufficient for the proposed analyses. This number not only provides a reasonably powerful sample size for statistical analysis, but also has adequate power to detect a small effect (.14) for a single predictor using Cohen's f^2 measure of effect size for multiple regression (Maxwell, 2000)—as .80 power (at $\alpha = .05$) to detect a small effect (.14) for a single predictor using Cohen's f^2 measure of effect size for multiple regression (Maxwell, 2000) would require a sample of 398 participants. As this study design was conducted a priori, the minimum number of participants required was determined to be 398. Thus, the final sample size of 417 had adequate power.

Procedure. The study included two surveys administered online through the Qualtrics online panel at two timepoints over the course of a month. Panel research companies require panellists to answer a series of profiling questions that include age, gender, ethnicity, and household income (Li et al., 2016). Over the course of a year, the panel companies invite the panellists to update their demographic information (Lee et al., 2016). To ensure that panellists are authentic, companies adopt recruitment quality checks via double-opt-in/invite-only methods that verify their e-mail and physical address, digital fingerprinting, and other third-party verification methods and post-participation quality checks (Lee et al., 2016). The Qualtrics online panel also ensures a relatively random sample (Lee et al., 2016).

Survey 1 was distributed to 900 employees recruited through the panel. Survey 2 was distributed to the same 900 respondents two weeks following the Time 1 survey. After a 46.7% attrition rate (loss of 480 respondents at time 2), 420 respondents completed both Survey 1 and Survey 2. After screening the data, the present study had 417 complete responses. Authors of methodological articles addressing statistical corrections for missing data have established that subject attrition can lead to overestimated, spurious, or underestimated relationships among a study's variables (Alexander, Barrett, Alliger, & Carson, 1986; Goodman & Blum, 1996). As the present study experienced high attrition (46.7%), it was important to further investigate the attrition rate between surveys. Zhou and Fishbach (2016) published a study that examined the attrition of respondents in six simulated web administered surveys (like Qualtrics and Survey Monkey). Overall, the dropout rates across the six studies ranged between 31.9%–51%. These studies were not cross sectional and did not address the even more challenging dimensions of retention amongst longitudinal studies (Zhou & Fishbach, 2016). As such, the attrition of Study 3 between Time 1 and Time

2 (46.7%) was within the reported range by Zhou and Fishbach (2016) and, subsequently, was not deemed problematic.

Ethical considerations. The present study was approved by the MUHREC. Participation in the study was voluntary and consent was implied from the participant's completion of the survey, after reading the explanatory statement at the beginning of the survey. Please see Appendix D.

Description of sample. The age range of the 417 respondents was 25–65 years. As seen in Table 6, 51% of respondents were male. This is a similar gender split to the employed differential in Australia with the ABS (2018) reporting 53% of the working demographic as male. The percentage of age categories (in years) represented are as follows: 25–34 (18%), 35–44 (25%), 45–54 (25%), 55–64 (33%) and 65+ (.2%). Fifty-eight percent of respondents were employed full-time, 22% were employed part-time and 20% were employed casually. This distribution is reasonably representative of the Australia-wide labour force with the ABS (2018) reporting 64% of the labour force in full-time employment and 30% in part-time employment. Seventy-six percent of the sample reported a high school diploma or higher, while 23% had a minimum of a bachelor's degree. The mean of tenure in the present organisation was 10 months ($M = 9.88$, $SD = 9.38$). Forty-five percent of respondents were from management and professional services and 19% of respondents were from trade labour and transport backgrounds. Half of the sample (50%) reported an annual income of \$52,000 or less. The median income in Australia in 2018 was \$59,559 (ABS, 2018). As such, the income distribution of this sample is reasonably representative of to the overall income distribution in Australia.

Table 6: Profile of the Sample of Study 3

Variable	Percent	Variable	Percent
<i>Gender</i>		<i>Occupation</i>	
Male	51%	Management	16%
Female	49%	Professional	29%
		Clerical	25%
		Trades	5%
		Production	4%
		Labour	10%
		Other	11%
<i>Age</i>		<i>Income (\$)</i>	
25-34	18%	Nil	5%
35-44	25%	1–7,799	3%
45-54	25%	7,800–15,599	4%
55-64	33%	15,600–20,799	4%
65+	.2%	20,800–25,999	5%
		26,000–33,799	7%
<i>Employment</i>		33,800–41,599	11%
Full-time	58%	41,600–51,999	11%
Part-time	22%	52,000–64,999	13%
Casual	20%	65,000–77,999	9%
		78,000–90,999	10%
<i>EA</i>		91,000–103,999	8%
Year 9	1%	104,000–155,999	12%
Year 10	6%	156,000+	3%
Year 11	3%		
Year 12	13%		
Cert I-IV	21%		
Diploma/AdvDip	14%		
Bachelor's degree	27%		
Master's degree	11%		
Doctoral degree	3%		

Note: $N = 417$

In summary, the profile of the sample represents a strong gender and age balance. The sample is a fairly educated sample, with 76% of the sample reporting a high school

diploma or higher in terms of educational attainment. The sample profile for income is also well distributed.

Measures.

Ambition. Ambition was measured using the 5-item ambition scale (Duckworth et al., 2007; Duckworth & Gross, 2014) validated in Study 1 of this thesis. As found in Study 1, this scale is a unidimensional measure of general ambition. To recap, the five items are: “I am ambitious”, “I aim to be the best in the world at what I do”, “Achieving something of lasting importance is the highest goal in life”, “I am driven to succeed”, and “I think achievement is overrated” (final item reverse-scored; Duckworth et al., 2007). Respondents indicated their level of agreement with each item on a 5-point scale (1 = Not like me at all, to 5 = Very much like me). Responses to the five items were averaged to form a composite scale.

Luck events. Luck was measured using the five items developed through a detailed content analysis in Study 1. The five items are: “Have you received an unexpected financial windfall (e.g., inheritance, unexpected capital gains)?”, “Have you been exposed to a new type of work or vocational activity that you unexpectedly found interesting?”, “Have you received an unexpected job promotion (e.g., appointed a new role for which you did not apply)?”, “Have you received unsolicited and/or unexpected career support (e.g., unexpectedly met someone who later helped your career)?”, and “Did your vocation/trade/industry experience unexpected growth (e.g., housing boom)?”. Respondents indicated whether each event had occurred to them (1 = Yes, 0 = No). Responses were summed to create an overall score (index) of luck events for each participant.

Human capital.

Educational attainment. Educational attainment was measured by asking respondents to indicate their highest completed level of education. This is a commonly used method of operationalising human capital (Becker, 1975; Haan, 2013; Judge et al., 2010; Ng & Feldman, 2010a; Wayne et al., 1999; Zangelidis, 2008). Respondents were asked to indicate their highest, completed level of education based on the following categories: (1) Year 9 or equivalent or below, (2) Year 10, (3) Year 11, (4) Year 12, (5) Cert I-IV including trade certificate, (6) Advanced diploma/Diploma, (7) Bachelor degree, (8) Master's degree, and (9) Doctoral degree.

Social capital. Based on existing social capital literature, the present study considers social capital within the context of the quality and quantity of one's social network (Coleman, 1988; Lin, 1999; Seibert et al., 2001). Respondents were asked to list (by initials only) up to five people who have acted to help their careers (e.g., speaking on their behalf, providing them with information, career opportunities, advice or psychological support or with whom they regularly spoke regarding difficulties at work, alternative job opportunities, or long-term career goals). Participants also specified each identified person's highest educational attainment and occupation (Lin, 1999). Respondents indicated each contact's highest completed level of education based on the following categories: (1) Year 9 or equivalent or below, (2) Year 10, (3) Year 11, (4) Year 12, (5) Cert I-IV including trade certificate, (6) Advanced diploma/Diploma, (7) Bachelor degree, (8) Master's degree, and (9) Doctoral degree. Furthermore, they reported each contact's current occupation using the Australian and New Zealand Standard Classification of Occupations (ANZSCO; ABS, 2013): (1) Manager or administrator, (2) Professional (e.g., accountant, teacher, nurse), (3) Clerical work (office clerk, receptionist, sales worker), (4) Trades person (e.g., plumber, carpenter), (5) Production or transport work (e.g., driver, machine operator), (6) Labourer or related work (e.g., cleaner, kitchen hand, handy-person), (7) Other (please specify). For those who

selected (7) Other (please specify), the specification was individually coded by the researcher into the above-mentioned categories.

I converted occupational categories into a 2-digit code (ANZSCO; ABS, 2013). I then converted these codes into an occupational prestige score using the Australian Socioeconomic Index 2006 (AUSEI06; McMillan, Jones, & Beavis, 2009). AUSEI06 is the most recently updated of a series of Australia National University occupational status scales that have provided researchers with a means of assigning sociologically meaningful occupational status scores to data coded in accordance with the ABS's official occupational classifications for forty years. The scales continue to be widely used in the fields of sociology (e.g., Henry, 2003; Western, M., Baxter, Pakulski, Tranter, Western, J., Van Egmond & Van Gellecum, et al., 2007) and economics (e.g., Headey, Veenhoven, & Weari, 2005). This scale allowed me to convert data coded in accordance with the official occupational classifications of the ABS into occupational status scores (McMillan et al., 2009). The AUSEI06 ranges from 0 (low status) to 100 (high status). It can be applied to men and women, part-time and full-time workers, and self-employed professionals (McMillan et al., 2009). Once this was coded, the occupational prestige and educational attainment of the five contacts was combined and averaged. These values were standardised.

Extrinsic career success. Career success is often measured in terms of extrinsic attainments (Ng et al., 2005). I measured extrinsic career success in terms of occupational prestige and income, consistent with existing research (Judge et al., 2010). Respondents reported their current occupation according to the following options: (1) Manager or administrator, (2) Professional (e.g., accountant, teacher, nurse), (3) Clerical work (office clerk, receptionist, sales worker), (4) Trades person (e.g., plumber, carpenter), (5) Production or transport work (e.g., driver, machine operator), (6) Labourer or related work (e.g., cleaner, kitchen hand, handy-person) and (7) Other. Using the procedure above, I converted this

information into a 2-digit code (ANZSCO; ABS, 2013) and then converted these codes into occupational prestige ratings using the AUSEI06 (McMillan et al., 2009). The occupational prestige rating values are as follows: (1) Manager or administrator, 68.6; (2) Professional (e.g., accountant, teacher, nurse), 81.6; (3) Clerical work (office clerk, receptionist, sales worker), 45.6; (4) Trades person (e.g., plumber, carpenter), 35.9; (5) Production or transport work (e.g., driver, machine operator), 18.3; (6) Labourer or related work (e.g., cleaner, kitchen hand, handy-person), 0; and (7) Other. Other was specified and allocated to an above category. Income was reported and coded on a 13-point ordinal scale as follows: (0) Nil income, (1) \$1-\$7799, (2) \$7800-\$15,599, (3) \$15,600-\$20,799, (4) \$20,800-\$25,999, (5) \$26,000-\$33,799, (6) \$33,800-\$41,599, (7) \$41,600-\$51,999, (8) \$52,000-\$64,999, (9) \$65,000-\$77,999, (10) \$78,000-\$90,999, (11) \$91,000-\$103,999, (12) \$104,000-\$155,999, (13) \$156,000+. Extrinsic career success was created using the above salary and occupational prestige metrics. Both metrics are ordinal variables, as they have two or more categories and the categories can be ordered or ranked. (e.g. 1=nil income-15=\$156k+). Income and occupational prestige were z-standardized and then combined to create an index of extrinsic career success.

Career satisfaction. The career satisfaction scale purports to measure “an individual’s internal apprehension and evaluation of his or her career, across any dimensions that are important to that individual” (Van Maanen, 1977, p. 9). Hence, career satisfaction was measured using the 5-item career satisfaction scale, as used in existing career success literature (Greenhaus et al., 1990). Example items are “I am satisfied with the progress I have made toward meeting my overall career goals” and “I am satisfied with the success I have achieved in my career” (Greenhaus et al., 1990). Respondents indicated their level of agreement with each item on a 5-point Likert scale (1 = Strongly disagree, to 5 = Strongly

agree). Responses to the five items were averaged to form a composite scale (Cronbach's alpha for the scale was .94).

Control variables. I included several control variables (discussed below) to rule out alternative explanations for my observed effects (Becker, 2005; Hair Jr et al., 2014; Podsakoff, MacKenzie & Podsakoff, 2012). Control variables were considered for inclusion in the subsequent analysis if they were likely to be correlated with the dependent and independent variables in each analysis and act as possible confounders. Respondents were asked to record personal demographic information such as their age, gender, and organisational tenure (in months). These variables were included as control variables because past studies have included them in their models and demonstrated a positive relationship between them and either human capital (educational attainment), social capital, and/or career success (Barclay, 2015; Becker, 1975; Black et al., 2005; Hassan, 2007; Judge et al., 2010; Powell & Steelman, 1993; Seibert et al., 2001).

Pilot. Prior to submitting the survey for Study 3 to Qualtrics for review, a pilot survey was conducted with my doctoral peers, academic colleagues, friends, and family ($n = 20$). I asked respondents to: (a) comment on the format of the survey, (b) comment on the content of the survey, and (c) indicate if any questions or instructions were difficult to understand. I received feedback that resulted in a few small changes that were incorporated into the final version of the survey. This procedure was followed for both surveys. Qualtrics launched the surveys to dummy respondents to ensure the surveys were correct. Once confirmed, a soft launch was initiated. Upon confirmation of the soft launch, Qualtrics administered the surveys to the panel respondents.

Method of analysis. The data for the present study was obtained through Qualtrics online survey software and then transferred into SPSS version 25 and PROCESS version 3.0 for statistical analysis. CFA was first conducted using AMOS v. 22. The first stage of data

analysis involved examining the reliability and validity of the measures employed, and consisted of conducting a CFA to assess construct validity of the multi-item measures employed in this study (Hair Jr et al., 2014). Prior to the testing of hypotheses, explanations of the techniques and criteria used to determine fulfilment of assumptions associated with the statistical analyses were considered. As such, regression assumptions of normality, homoscedasticity, linearity, and the absence of multicollinearity were thoroughly evaluated. Lastly, an overview of techniques used to detect indirect (mediated) and conditional indirect effects, along with the probing of interaction effects, will be discussed. Hypotheses were tested using moderated multiple regression with the conditional process modelling (PROCESS) program for SPSS (Hayes, 2013). Variables were z-standardised prior to analysis in an effort to combat issues associated with multicollinearity in moderated regression (Tabachnick & Fidell 2013).

Analysis for checking validity of measures. As discussed earlier, all of the multi-item measures employed in this study have demonstrated acceptable reliability and validity in existing studies. In order to verify that these measures have also exhibited similar patterns of reliability and validity in this study, factor analysis was conducted. Factor analysis allows for the identification of underlying structure and common variance between observed variables (Gorsuch, 1990; Hair Jr et al., 2014; Kim & Mueller, 1978). This is achieved by the collapsing of measured variables into fewer factors based on the similarity and patterns of their relationships between one another (Tharenou et al., 2007). Observed variables that were hypothesised to capture the same concept were expected to load onto the same factor. In this way, factor analysis evaluates whether the data collected is in line with the theoretically expected structure of the target construct, and consequently demonstrates construct validity (Matsunaga, 2010; Russell, 2002; Sekaran & Bougie, 2009).

Two methods of factor analysis are EFA and CFA (Thompson, 2004), and both methods are used to investigate the underlying factor structure and variability of the data (Jackson et al., 2009). Despite this, each method differs in its process and purpose for which it is best suited. EFA, as seen in Study 1 of this thesis, is utilised in theory-building when little is known about the variability of, and interrelationships among, the indicators or observed variables and the corresponding unobserved or latent factors that account for them (Henson & Roberts, 2006). CFA aids in determining whether the measures employed have actually measured what they purport to measure. Hence, CFA allows us to determine how well an initial theoretical specification of the factors matches the data (Hair Jr et al., 2014). CFA is considered to be a gold standard diagnostic tool for evaluating construct validity or a test of measurement theory (Brown, 2006; Hair Jr et al., 2014; Jackson et al., 2009; Matsunaga, 2010). CFA allows researchers to evaluate the extent to which the variables are good indicators of the respective factors (Nasser & Takahashi, 2003; Yuan, Bentler, & Kano, 1997). CFA is most appropriate where there is a priori theoretical or empirical knowledge on the expected structures underlying the latent variables (Brown, 2006; Hair Jr et al., 2014; Jackson et al., 2009; Matsunaga, 2010). As such, the present study subjected observed variables to CFA.

Confirmatory factor analysis. Prior to conducting CFA, data were screened and several assumptions were tested, such as adequate sample size, missing data, univariate and multivariate normality, linearity and homoscedasticity, and the absence of outliers. All were deemed satisfactory. The CFA assumption reporting will be addressed in greater detail in the Results section of this study.

Confirmatory factor analysis model. The reporting and usage of fit statistics in evaluating fit of a given CFA model is an issue that has been widely discussed (e.g., Fan, Thompson, & Wang, 1999; Hu & Bentler, 1999; Hu, Bentler, & Kano, 1992; Marsh, Hau, &

Wen, 2004). While there are no universally agreed upon fit statistics to be reported, there is substantial consistency among pivotal works addressing these concerns (such as Bentler, 2007; Hoyle, 1995; MacCallum & Austin, 2000; Thompson, 2004).

To address this disparity, scholars have recommended the use of at least two other ancillary indices of global fit that have different “families” of measurement properties—namely incremental fit indices (e.g., comparative fit index or CFI [Bentler, 1992], and the Tucker-Lewis index or TLI [Tucker & Lewis, 1973]) and approximate fit indices (e.g., root mean square error of approximation or RMSEA [Steiger, 1990])—in addition to the chi-square results to evaluate model fit (Fan et al., 1999; Hair Jr et al., 2014; Hu & Bentler, 1998, 1999). Hair Jr et al. (2014) suggest the use of at least one other absolute fit index, aside from the chi-square statistic, in evaluating model fit. As such, the present study followed existing scholarly directives, and therefor evaluated and reported the relative chi-square or normed chi-square value (calculated by dividing the chi-square index by the degrees of freedom), as it reduced the chance of the results being confounded by large sample sizes. In addition, the existing literature has suggested cut-off values of between less than 5 (Schumacker & Lomax, 2004) to less than 2 (Ullman & Bentler, 2003) as the criterion for an acceptable model fit. As such, the present study also used an approximate fit index and incremental fit indices to supplement other fit indices. RMSEA is a regularly used approximate fit index (Steiger, 1990) that evaluates the degree to which the tested model closely fits the data while taking the sample size into consideration (Kline, 2005). Hu and Bentler (1999) suggest that RMSEA values less than .06 are suggestive of good model fit, while .08 according to Steiger (1990).

The second group of indices (incremental fit indices), compares the tested model against an alternative, baseline model and determines the degree to which the former accounts for variance in the data (Hu & Bentler, 1999). The present study evaluates and

reports the most commonly used forms of incremental fit indices, including CFI and the TLI. Based upon guidelines in the existing literature, incremental fit indices of greater than .90 signify acceptable model fit (Hu & Bentler, 1999). The present study will rely on the relative chi-square, RMSEA, CFI, and TLI to collectively evaluate model fit.

According to Tabachnick and Fidell (2001), listwise deletion is an acceptable approach when the patterns appear at random and there are few cases of missing data. As the missing data in Study 3 appeared to be at random and there was only 0.7% of missing data (well below the recommended 10%), listwise deletion was used (Hair Jr et al., 2014).

Factor loadings for each item were examined to determine the extent to which scores for that indicator are reflective of its corresponding latent variable (Kline, 2011). According to guidelines suggested by Hair Jr et al. (2014) regarding construct validity, factor loadings should be $\pm .30$ to $\pm .40$ at a minimum, indicating sufficient convergence on the respective target latent variable. Ford et al. (1986) recommend a criterion of .40 to assess whether an indicator is loading significantly onto a factor. Consequently, the present study employs the .40 criterion as the cut-off value for retaining an item in a scale.

Analysis for checking reliability of measures. In addition to analysing the validity of measures used, it is also important to consider reliability. Reliability is the extent to which measures are able to replicate values of the underlying true score (Tharenou et al., 2007). Without adequate reliability, the use of unreliable measures may compromise the estimation of effect sizes in hypothesis testing (Tabachnick & Fidell, 2013). There are several corresponding classes of reliability estimates available depending on the blueprint of each study (Tharenou et al., 2007). Internal consistency reliability signifies the degree of consistency between scores for the individual items of a multi-item measure (Kline, 2011). To assess internal reliability consistency, Cronbach's alpha (α) is used. Hence, the present study uses Cronbach's alpha (α) for the evaluation of internal reliability, as well as employing

the conventional cut-off value of .70 to determine if multi-item measures have indeed demonstrated acceptable reliability (Nunnally, 1978).

Hypothesis testing using conditional process modelling. After demonstrating adequate validity and reliability, the study constructs were considered to be acceptable for hypothesis testing. Hypotheses were tested with the conditional process modelling (PROCESS) program for SPSS (Hayes, 2013). According to Hayes and Preacher (2013) conditional process modelling provides a more complete analysis of a phenomenon that works to uncover how a sequence of causal events depends on contextual or individual difference factors, and considers the phenomenon in terms of the direction, magnitude, or existence of the effect. Before PROCESS was undertaken, the data were checked to determine whether they were suitable for this analytical technique. Then, structural models were specified, interpreted, and reported.

Analysis for detecting indirect effects. To address *H1a-b*, where human capital is expected to mediate the positive relationships between ambition and extrinsic career success and ambition and career satisfaction, the detection and analysis of an indirect or mediating effect is required. Similarly, the detection and analysis of an indirect or mediating effect is also required with *H2a-b*, where social capital is expected to mediate the positive relationships between ambition and extrinsic career success and ambition and career satisfaction.

Of the range of mediation analysis methods, the causal steps approach is most commonly referenced (Hayes, 2009; Judd & Kenny, 1981; Tofighi & MacKinnon, 2011). Developed by Baron and Kenny (1986), this approach requires a series of hypothesis tests, through which statistical significance of the mediating variable effect may be shown if certain statistical conditions are met (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). Under this approach, there first needs to be a direct relationship between the independent

variable and the outcome variable (path c). The presence of a statistically significant relationship between the independent and outcome variables is considered a necessary precondition for the continuation of the mediation analysis (Baron & Kenny, 1986; MacKinnon & Fairchild, 2009). From here, each variable in the sequence must affect the variable that precedes it when all variables prior to it are controlled (Baron & Kenny, 1986). Lastly, under the condition where paths a and b are controlled for, the previously significant relationship between the independent and outcome variables should no longer be significant in order for mediation to be inferred (Baron & Kenny, 1986).

Despite the popularity of the causal steps approach, it has not been without its critics (such as MacKinnon, Fairchild, & Fritz, 2007; MacKinnon et al., 2002). More specifically, researchers have contended that requiring the prerequisite of a significant direct relationship between the independent and outcome variables (path c) for further analysis is an erroneous assumption, as it may fail to detect significant mediation effects (Hayes, 2013; MacKinnon & Fairchild, 2009; MacKinnon et al., 2002). This viewpoint asserts that there are certain scenarios in which significant indirect effects may be present but are obscured by the nonsignificant total effect (path c) for the model examined (Hayes, 2009; MacKinnon & Fairchild, 2009). For example, the presence of two or more indirect paths that transmit the effect of the independent to the outcome variable may be operating in opposite directions that would effectively cancel each other out and appear to produce a total effect (path c) that is nonsignificant (Hayes, 2009; MacKinnon & Fairchild, 2009). As such, simulation studies comparing methods of assessing mediation effects have consistently shown that this approach suffers from very low power (Fritz & MacKinnon, 2007; MacKinnon et al., 2002; MacKinnon, Lockwood, & Williams, 2004) and is least likely of the methods examined to detect a significant mediation effect (MacKinnon et al., 2002).

More recent literature advocates the use of bootstrapping as a method to assess indirect effects in mediation analysis (such as Bollen & Stine, 1990; Hayes, 2013; Lockwood & MacKinnon, 1998; MacKinnon et al., 2004; Preacher & Hayes, 2004; Shrout & Bolger, 2002). Bootstrapping is a commonly used technique for building confidence intervals (CI) for indirect effects (MacKinnon, Cox, & Baraldi, 2012). It produces an empirical representation of the sampling distribution of the indirect effect (ab) that is calculated based on a new sample of size N , which is constructed by drawing repeated “samples” with replacement from the observed sample (MacKinnon et al., 2012). Estimates of ab are calculated based on resampled data n and the process is performed k number of times (MacKinnon et al., 2012). Once completed, k estimates of the indirect effect (ab) and the distribution available are used for the construction of CI (MacKinnon et al., 2012). If zero does not land within the lower and upper bound of the CI (i.e., 25th and 97th percentile, assuming a two-tail test with .05 alpha value), the researcher may deduce that the indirect effect is not zero at the .05 level of confidence (MacKinnon et al., 2012). Within the present study, the exclusion of zero is comparable to rejecting the null hypothesis of no indirect effect.

The bootstrapping method employs an empirical inference based on the indirect effect itself, as opposed to relying on inferences drawn from a series of hypothesis tests on other elements of the mediation model (MacKinnon et al., 2012). Additionally, in contrast to the Sobel test, it does not make assumptions about the shape of the sampling distribution of the indirect effect, ab (Hayes, 2009). Because this is more accommodating to the often non-normally distributed ab , research has shown that bootstrapping yielded more accurate CI limits (Bollen & Stine, 1990; Noreen, 1989). In fact, MacKinnon et al. (2004) have found that bootstrapping outperformed comparable types of mediation analysis in terms of statistical power and Type I error. Additional studies have suggested bootstrapping to be

more valid, powerful, and accurate than other methods of testing indirect effects (Bollen & Stine, 1990; Lockwood & MacKinnon, 1998; MacKinnon et al., 2004; Shrout & Bolger, 2002; Williams & MacKinnon, 2008). As a result, bootstrapping has been increasingly considered “the method of choice” (Hayes, 2009, p. 412). Based upon these recommendations, the present study conducted a bootstrap based on the recommended 5,000 bootstrap samples (Hayes, 2013) to test the mediation hypotheses *H1a-b* and *H2a-b*.

Analysis for detecting and probing conditional interaction. In order to analyse *H3* to *H6a-b*, where resource-supplying luck is predicted to moderate both stages of the indirect effects of ambition on career success via human capital and social capital, the detection and analysis of conditional indirect effects is required (Hayes & Preacher, 2013). Specifically, *H3–H6a-b* involved the examination of first-stage and second-stage moderated mediation models with a single moderator for each hypothesis (see Edwards & Lambert, 2007), while *H7a-b* and *H8a-b* entailed the analysis of two moderators simultaneously (or three-way interactions) in moderated mediation models for each hypothesis.

Analysing the extent and significance of conditional indirect effects requires identifying if and when the mediation relations are contingent on the level of the moderator (Preacher, Rucker, & Hayes, 2007). Preacher et al. (2007, pp. 2–3) suggest that the

cleanest evidence of moderated mediation [or conditional indirect effect] is evidence of moderation of one of the paths in the causal system combined with evidence that the conditional indirect effect is statistically different from zero at some value(s) of the moderator but not at another value or values.

This method of analysis has been widely adopted although challenged in more modern literature. For example, Hayes (2015) has asserted that requiring at least one path in the causal system to be significantly moderated is not necessary. This perspective developed from evidence indicating indirect effects could be moderated even if one cannot substantiate moderation of one of the components of the indirect effect by an inferential test (Fairchild &

MacKinnon, 2009; Hayes, 2015). Hayes (2015) contended that the hypothesis of conditional indirect effect is supported when the index of moderated mediation is statistically different from zero. Hayes (2015) states that the index of moderated mediation is a “direct quantification of the linear association between the indirect effect and the putative moderator of that effect” (pg. 3). Hence, the index of moderated mediation quantifies the effect of the proposed moderator on the indirect effect of the independent variable on the dependent variable via the mediating variable. Thus, a nonzero weight in the index of moderated mediation would serve as a statistical test for detecting the presence of significant moderation of a mediated relationship (Hayes, 2015).

When a conditional indirect effect is identified, follow-up testing and analysis is required to examine and describe the nature of the conditional mediation relationship (Fairchild & MacKinnon, 2009; Hayes, 2015; Preacher et al., 2007). Following common practice of simple slopes, the choice of moderator values is examined at low, moderate, and high values of the moderator (e.g., the mean, one standard deviation below and one standard deviation above the mean; Edwards & Lambert, 2007; Wang & Preacher, 2015). Hayes (2015) recommends that a bootstrap CI for each of the conditional effects at the various values of the moderator should be estimated to determine at what levels of the moderator the conditional indirect effect is significant. Additionally, as detailed by Aiken, West, and Reno (1991), Cohen, Cohen, West, and Aiken (2003), and Dawson and Richter (2006), results may also be graphically illustrated.

Analysis for detecting common-method variance. This study relied on data from a single source. As such, it is possible that the results may have been influenced by CMV (Richardson, Simmering, & Sturman, 2009). However, it is important to remember that the present study did collect time-lagged data. While the below discussion will address CMV in more detail, a time-lagged study design was chosen where the independent and dependent

variables were measured at different times and, thus, did not contaminate each other by being gathered simultaneously (Tharenou et al., 2007).

Harman's single factor test is the most commonly used technique for detecting CMV (Podsakoff et al., 2003). The test for detecting CMV involves entering all observed variables into an EFA and then examining the results of an unrotated factor solution (Podsakoff et al., 2003). CMV may be present in the data if the results reveal a single dominant factor which explains the majority of the covariance among the items (Sharma, Yetton, & Crawford, 2009). However, an alternate, commonly used approach to this test involves specifying a measurement model in which all items are loaded onto a single latent variable (Carmeli, Tishler, & Edmondson, 2012; Lubatkin, Simsek, Ling, & Veiga, 2006). With this approach, a good fitting model would be interpreted as a possible indication of CMV. Podsakoff et al. (2003, p. 889) believe that this use of CFA represents "a more sophisticated test of the hypothesis than a single factor can account for all of the variance in the data". As such, despite nominal concern regarding CMV for this time-lagged study, CFA was the chosen approach used to address potential CMV issues.

This section has provided an overview of the research design and method of data collection undertaken in the present study. The study consisted of 417 respondents over the age of 25 who completed two different surveys at two timepoints collected through an online panel. CFA, reliability, validity, mediation, moderation, and mediated moderation methods of analysis to test study hypotheses have been discussed in detail. The following section reports the results of the study.

Results

The following section will provide a detailed account of the quantitative results of the present study. First, the present study's CFA results will be reported and discussed. Next,

reliability, validity, mediation, moderation, and mediated moderation results will be reported in detail. Hypotheses results will be stated; tables and figures are included.

Confirmatory factor analysis. This section will present the results of the CFA for multi-item measures. First, results of the checks that ensured the data were suitable for CFA will be reported. Second, the model fit of the CFA measurement model and the factor loadings for each observed variable will be reported.

Assumptions of confirmatory factor analysis. To provide rigorous results for CFA, a number of assumptions must be met. Prior to conducting CFA, data were screened and each of the assumptions were tested. Results are presented below.

Sample size. The minimum sample size required for CFA remains a matter of discussion (MacCallum, Widaman, Zhang, & Hong, 1999; Parsian & Dunning, 2009). Existing advice about determining how large the minimum required sample size should be to ensure a robust CFA is both complex and diverse (Jackson, 2007; MacCallum et al., 1999; Parsian & Dunning, 2009). Some suggest absolute sample sizes (e.g., Comrey & Lee, 1992; Gorsuch, 1990; Kline, 2011; MacCallum et al., 1999; Tabachnick & Fidell, 2013), while others have advocated an approach concerning ratios of observations to the number of parameters to be estimated (e.g., Bollen, 1989; Jackson, 2007; Kline, 2005; Marsh, Balla, & McDonald, 1988). Tabachnick and Fidell (2013) suggest that a minimum of 300 cases is required for CFA. Others, such as Comrey and Lee (1992), Jackson (2001), and MacCallum et al. (1999), believe that conditions and quality of data or measurement models should be considered when determining the minimum sample size required. This premise believes that with more “ideal” conditions of lower communalities, a smaller number of factors, fewer indicators for each factor, and smaller sample sizes ranging from 100 to 200 may be adequate (Comrey & Lee, 1992; MacCallum et al., 1999). However, in the case of less favourable circumstances (where average factor to variable paths is below the threshold of .60), more

than 400 observations may be required (Jackson, 2001). The sample size of this study was 417 and, consequently, deemed sufficient.

Missing data. Hair Jr et al. (2014) states that missing data is generally negligible when the data is missing at random and the proportion of data missing is less than 10% of the total data. Listwise deletion was employed and the overall sample size for the CFA in the current study was reduced from 420 to 417, likening to 0.7% missing data. This indicates a trivial loss of missing data, as 0.7% is considerably under the threshold of 10% advised by Hair Jr et al. (2014).

To determine whether the data were missing in a systematic manner, Little's (1988) missing completely at random test was used. The results of this test were nonsignificant (chi-square = 137.879, $df = 87$, $p > .01$), telling us that the null hypothesis that data were missing completely at random could not be rejected and there was no evidence that these were missing in a systematic, non-random way. As such, 0.7% of missing data, that was missing at random, was not considered to be problematic.

Multivariate normality. Kline (2011) suggests that the assumption of multivariate normality demands all univariate distributions to be normal and the joint distributions between all possible combinations of variables to be bivariate normal. As it is often difficult to examine the bivariate frequency distribution of each possible pair of variables (Kline, 2011), some adopt the view that univariate normality can be interpreted as an indicator of multivariate normality (Hair Jr et al., 2010; Kline, 2011). Researchers are able to detect many instances of multivariate non-normality (Kline, 2011) through the inspection of univariate distributions. Variables that are found to be univariate normal tell us that any deviations from multivariate normality are likely to be inconsequential (Hair Jr et al., 2014).

Univariate normality, as suggested by Hair Jr et al. (2014) was assessed by examining values of skewness and kurtosis for each of the observed variables included in the CFA and the examination of histograms. A distribution is considered to be severely non-normal if the absolute skewness value exceeds 3 and/or the absolute kurtosis value exceeds 10 (Kline, 2011). As none of the observed variables included in the CFA advanced near to these thresholds, it was concluded that the assumption of normality was not violated by the study data. The examination of the histograms further confirmed the absence of univariate non-normality. In addition, the lack of multivariate outliers further confirms that the data do not violate the assumption of multivariate normality. See Appendix E.

Outliers. To test for the presence of multivariate outliers (Tharenou et al., 2007), the Mahalanobis distance statistic was used. As such, the critical chi-square value at the 0.001 level as recommended by Tabachnick and Fidell (2013) was compared to the values. No cases were identified to be outliers, and none had a Mahalanobis distance score higher than the critical value of 137.

Linearity and homoscedasticity. As suggested by Kline (2011), the assumptions of linearity and homoscedasticity are important because the estimates generated are based on linear relationships. Bivariate scatterplots constructed at the observed variable level were used to test linearity and homoscedasticity (Kline, 2011). Because of the considerable number of potential observed variable combinations, a 5% subset were randomly selected and checked. The scatterplots revealed roughly linear and oval-shaped distributions for each combination. Therefore, it was concluded that the assumptions of linearity and homoscedasticity were not violated, and were consequently deemed adequate for CFA.

Confirmatory factor analysis model. The CFA model in the present study contained three latent variables, each composed of multiple items (observed variables): ambition (five items) and career satisfaction (five items). The overall model fit ($\chi^2 [df = 87] = 137.88, \chi^2/df$

= 1.59, CFI = .91, TLI = .98, RMSEA = .04) was deemed acceptable. Hence, the CFA model was deemed to have acceptable fit and, consequently, evidential of construct validity for each of the measures. The results for the CFA are summarised in Table 7.

Table 7: Results from CFA Analysis

Item	Ambition	Career satisfaction
I am driven to succeed	.86	
I am ambitious	.86	
Achieving something of lasting importance is the highest goal in life	.78	
I aim to be the best in the world at what I do	.77	
I think achievement is overrated	.64	
<i>These questions ask how you feel about your career.</i>		
I am satisfied with the progress I have made toward meeting my overall career goals		.93
I am satisfied with the success I have achieved in my career		.88
I am satisfied with the progress I have made toward meeting my goals for advancement		.88
I am satisfied with the progress I have made toward meeting my goals for income		.82
I am satisfied with the progress I have made toward meeting my goals for the development of new skills		.81

Note: Standardised loadings reported.

Analysis and results for checking reliability of the measures. To test the multi-item measures in the present study, Cronbach's alpha (α) was used (Tharenou et al., 2007). Table 8 below indicates that Cronbach's alphas for all multi-item measures were adequately above the established threshold of .70. Thus, the measures of ambition and career satisfaction indicate acceptable internal consistency (Nunnally, 1978). As detailed in the

Methods section, to adequately address existing criticisms associated with the use of Cronbach's alpha (Hair Jr et al., 2014), the present study also calculated and interpreted the composite reliability of each latent variable. Composite reliabilities for both variables exceeded the minimum of .60 and were in excess of the recommended .70 criterion. As such, we can conclude the variables display acceptable reliability. As luck is an index and not a scale, a Cronbach's alpha was not reported. An index includes items that focus on multiple yet distinctly related aspects of a dimension or domain of behaviour, attitudes, or feelings into a single indicator; whereas a scale is constructed by assigning scores to patterns of responses with the idea that some items suggest a weak degree of the variable while other items reflect stronger degrees of the variable, thus requiring the reporting of a Cronbach's alpha (Hair Jr et al., 2014). As the reliability and validity of the multi-item measures have been established, the subsequent section will outline the analyses that were conducted to test the present study's hypotheses.

Table 8: Reliability Estimates for Multi-item Measures

Variable	Composite reliability	Cronbach's alpha (α)
Ambition	.77	.85
Career satisfaction	.93	.94

Hypothesis testing.

Preliminary analysis. Prior to running the mediated, moderated, and mediated moderation multiple regression analyses with PROCESS, preliminary analyses were run to screen for missing values, data entry errors, non-serious responses, outliers, and out of range values.

Missing values. There were minimal missing data overall, with missing data primarily appearing in the measure of social capital. Consequently, I employed Hair Jr, Black, Babin, and Anderson's (2014) 4-step process for identifying missing data. Step 1 advises to determine the type of missing data. As the missing data were not expected, nor part of the research design, the present study's missing data is determined to be not ignorable missing data (Hair Jr et al., 2014). Step 2 advises to determine the extent of missing data and to assess the patterns of the missing data (Hair Jr et al., 2014). As the missing data in the present study is under 10% and determined to appear at random (step 3), it can generally be ignored. Also, the number of cases with no missing data is sufficient for the selected analysis technique (Hair Jr et al., 2014). Despite the general discouragement of using this method as it can reduce sample size, the complete case approach is appropriate as the present study has a very small amount of missing data and the sample size is large enough to allow for deletion of the cases with missing data (Hair Jr et al., 2014). Consequently, the present study specified listwise deletion in PROCESS macro for all statistical analyses.

Normality. Based on visual inspection of the histograms of the values for human capital, social capital, income, occupational prestige, and career satisfaction, no histograms appeared to illustrate abnormality. According to Kline (2011), kurtosis values should not be greater than five and skewness values should not approach two. As the skewness and kurtosis values for all variables did not exceed these critical values, they were assumed to be normally distributed and retained for the regression analysis.

Regression diagnostics. Prior to testing the research hypotheses, adherence of the data to the diagnostic assumptions of multiple regression analysis were assessed.

Sample size. As referred to in the Power analysis section of this thesis, the present study has a sample size of 417 and is adequately powered.

Multicollinearity. In the mediated regression analysis, the assumption of multicollinearity does not appear to have been violated, as none of the Pearson correlation coefficients between the study variables exceeds .90 (Pallant, 2013) or the .70 criterion also used by some (Hair Jr, Anderson, Tatham, Babin, & Black, 2005). Tolerance values less than .10 and variance inflation factor (VIF) values exceeding 10 indicate that there may be an issue with multicollinearity (Pallant, 2013). As such, multicollinearity is not a problem, as none of the tolerance values in the present study are less than .10 and there are no VIF values that exceed 10. For the moderated regression analysis and moderated mediation regression analysis, the assumptions of multicollinearity are also not violated, as none of the Pearson correlation coefficients exceed .90 (Pallant, 2013). Furthermore, none of the tolerance values are less than .10 and there are no VIF values that exceed 10 (Pallant, 2013).

Normality, linearity, and homoscedasticity. The assumptions of normality, linearity, and homoscedasticity were assessed visually. For the mediation analyses, normality was assessed by inspecting the normal probability plot of occupational prestige, income, career satisfaction, and educational attainment. There are some small deviations from normality for these variables indicated by the normal probability plot, as the points do not lie in an exact straight line from bottom left to top right (Pallant, 2013). However, the points do resemble a moderately normal distribution and, due to the robust nature of multiple regression, no major violations of the normality, linearity, and homoscedasticity assumptions were assumed (Pallant, 2013). The residual scatterplots for occupational prestige, income, and career satisfaction were also examined to assess linearity, normality, and homoscedasticity. The residual scatterplots indicate the majority of the residual data points are concentrated in the centre, thereby indicating no major violations of these regression assumptions.

Correlations. Table 9 reports the means, standard deviations, and correlations of the study variables. The zero-order correlations for ambition, human capital, social capital,

career satisfaction, and extrinsic career success were all in the expected direction, with the strongest correlation between social capital and extrinsic career success ($r = .46$). Gender was dummy coded (male = 0, female = 1) and females scored higher in regards to extrinsic career success. Luck was positively and significantly correlated with ambition, human capital, social capital, career satisfaction, and extrinsic career success. Interestingly, on average, luck was close to zero, as was the luck median value of .29. Human capital, social capital, career satisfaction, and extrinsic career success were significantly related to ambition, and ambition, human capital, and social capital were significantly positively related to extrinsic career success. Ambition and human capital were also significantly related to career satisfaction. This pattern of values suggests that it is appropriate to proceed with more formal mediation analysis. Age and gender were positively correlated with extrinsic career success, and organisational tenure was positively correlated with human capital, supporting their inclusion as covariates in the regression models. Ethnicity was also examined (but not reported) to ensure there were no undetected effects. Ethnicity did not play a major role and was consequently excluded from further analysis.

Table 9: Descriptive Statistics and Intercorrelations of Study Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9
1. Ambition	3.01	.71	(.85)								
2. Human capital	6.08	1.89	.20**	(-)							
3. Social capital	.04	1.71	.17**	.34**	(-)						
4. Career satisfaction	3.54	.98	.21**	.20**	.11	(.94)					
5. Extrinsic career success	.04	1.62	.22**	.39**	.46**	.32**	(-)				
6. Luck	.34	.21	.20**	.17**	.11*	.22**	.18**	(-)			
7. Gender	.51	.50	-.02	.16**	-.05	.02	.17**	.06	(-)		
8. Age	3.73	1.11	-.26**	.05	-.19**	.03	-.18**	.06	.12*	(-)	
9. Org tenure	9.90	9.38	-0.03	.51**	-0.09	.08	.05	-.09	.23**	.25**	(-)

Note: * $p < .05$; ** $p < .01$; alpha reliabilities are given in parentheses. Ambition $n = 417$; human capital $n = 412$; social capital $n = 335$; career satisfaction $n = 417$; extrinsic career success $n = 417$; luck $n = 417$; gender $n = 417$; age $n = 417$; Org tenure $n = 412$.

Mediation and moderation. *H1a-b* states that human capital will mediate the relationship between ambition and (a) extrinsic career success and (b) career satisfaction. There was a positive relationship between ambition and human capital ($\beta = .15, p < .01$). Ambition was also positively related to social capital ($\beta = .12, p < .01$). Furthermore, human capital was positively related to extrinsic career success ($\beta = .33, p < .01$). Human capital mediated the relationship between ambition and extrinsic career success ($\beta = .05, p < .01$). A bootstrap test based on the recommended 5,000 bootstrap samples (Hayes, 2013) was conducted and indicated that the indirect effect of ambition on extrinsic career success through human capital was .05 (CI95% .02 to .09). As zero was not included in the CI95% for the indirect effect, mediation was displayed, providing support for *H1a*. Human capital did not mediate the relationship between ambition and career satisfaction ($\beta = .02, ns$). Thus, *H1b* was not supported. Ambition did not have a significant direct effect on career success, suggesting human capital fully mediates the relationship between ambition and extrinsic career success ($\beta = .05, ns$).

Hypothesis *2a-b* stated that social capital will mediate the positive relationship between ambition and (a) extrinsic career success and (b) career satisfaction. Social capital was positively related to extrinsic career success, ($\beta = .31, p < .01$), however, social capital was not positively related to career satisfaction ($\beta = .02, ns$). Social capital mediated the relationship between ambition and extrinsic career success ($\beta = .04, p < .01$). As such, *H2a* was supported. A bootstrap test based on the recommended 5,000 bootstrap samples (Hayes, 2013) was conducted and indicated that the indirect effect of ambition on extrinsic career success through social capital was .04 (CI95% .00 to .08). Ambition did not have significant direct effect on career success, suggesting that social capital fully mediates the relationship between ambition and career success ($\beta = .05, ns$). However, opposing *H2a*, social capital did not mediate the relationship between ambition and career satisfaction ($\beta = .01, ns$). A

bootstrap test based on the recommended 5,000 bootstrap samples (Hayes, 2013) was conducted and indicated that the indirect effect of ambition on career satisfaction via social capital was .01 (CI95% -.01 to .03). As zero was included in the CI95% for the indirect effect, mediation was not shown. Tables 10 and 11 depict these results.

Table 10: Effects of Ambition on Extrinsic Career Success via Human Capital and Social Capital

Variable	Effect on extrinsic career success	CI 95%	
		Lower limit	Upper limit
<i>Direct</i>			
Ambition	.05	-.05	.15
<i>Indirect</i>			
Human capital	.05**	.02	.09
Social capital	.04**	.00	.08

Note: * $p < .05$; ** $p < .01$; age, gender, and org tenure were controlled. I used Model 58 in Hayes' PROCESS macro and both mediators are included in the analysis (version 3; Hayes, 2013).

Table 11: Effects of Ambition on Career Satisfaction via Human Capital and Social Capital

Variable	Effect on career satisfaction	CI 95%	
		Lower limit	Upper limit
<i>Direct</i>			
Ambition	.19**	.08	.30
<i>Indirect</i>			
Human capital	.02	-.01	.05
Social capital	.01	-.01	.03

Note: * $p < .05$; ** $p < .01$; age, gender, and org tenure were controlled. I used Model 58 in Hayes' PROCESS macro and both mediators are included in the analysis (version 3; Hayes, 2013).

Moderating effect of resource-supplying luck. *H3* predicted that luck moderates the relationship between ambition and human capital. This hypothesis was not supported ($\beta = -.06, ns$) indicating that luck did not significantly moderate the ambition–human capital relationship. Hypothesis 4 was also not supported because, though luck moderated the relationship between ambition and social capital, it did so in a negative direction ($\beta = -.12, p < .01$). I plotted the statistically significant negative interaction to aid in interpreting this effect (Cohen et al., 2003). As shown in Figure 4, examination of the interaction plot showed the positive relationship between ambition and social capital was weaker when luck was above average (one SD above the mean; $\beta = -.06, ns$), than when below average (one SD below the mean; $\beta = .25, p < .01$). Further, Hypothesis 5a was also not supported because, though luck moderated the relationship between human capital and extrinsic career success, it did so in a negative direction ($\beta = -.10, p < .05$). I performed a simple slope analysis and plotted the statistically significant negative interaction to aid in interpreting this effect (Cohen et al., 2003). As shown in Figure 5, the positive relationship between human capital and extrinsic career success was weaker when luck was above average (one SD above the mean; $\beta = .17, p < .05$) than when below average (one SD below the mean; $\beta = .36, p < .01$). Hypothesis 5b was not supported because luck did not moderate the positive relationship between human capital and career satisfaction ($\beta = .03, ns$). Luck also did not moderate the relationship between social capital and career success, thus not supporting Hypothesis 6a ($\beta = .08, ns$). Hypothesis 6b was also not supported, as luck did not moderate the relationship between social capital and career satisfaction ($\beta = .02, ns$).

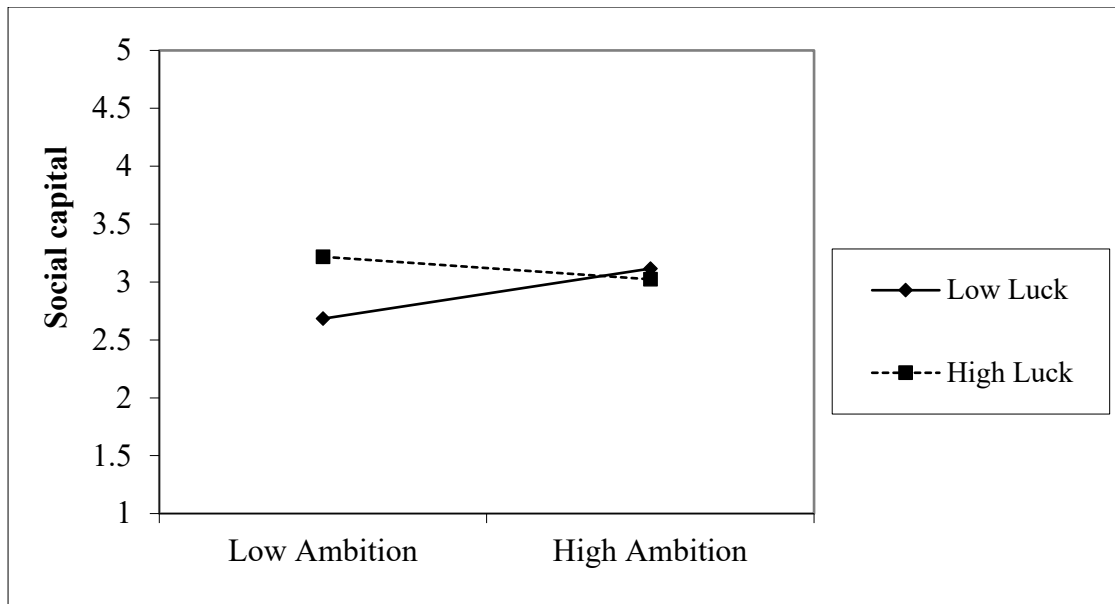


Figure 5: Luck Moderates Ambition and Social Capital

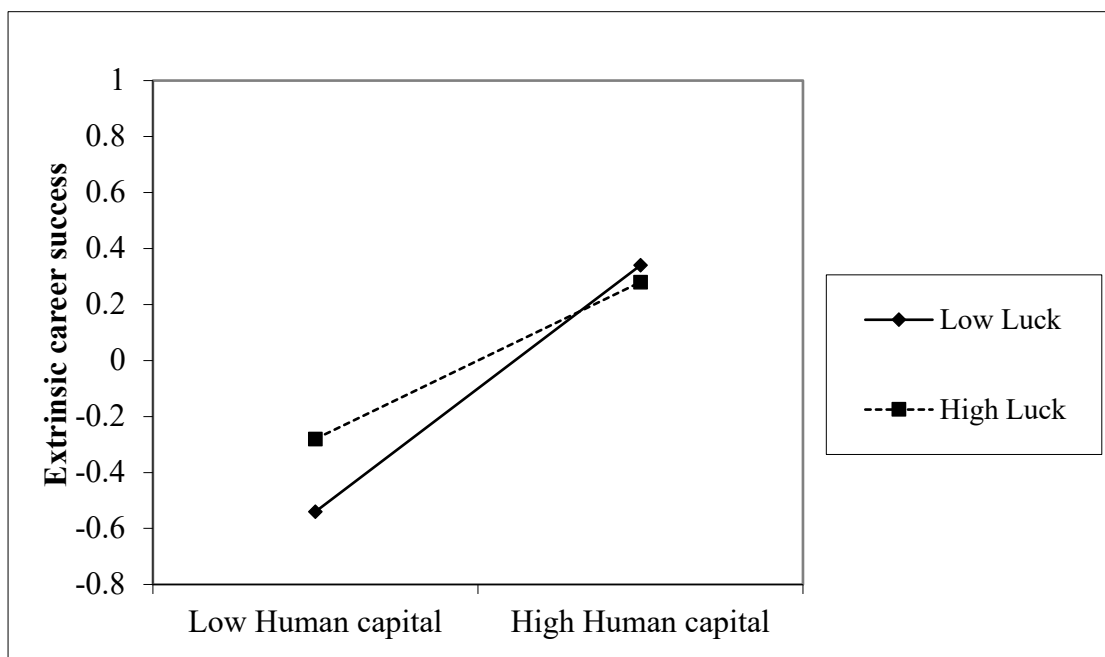


Figure 6: Luck Moderates Human Capital and Extrinsic Career Success

Moderated mediation. To test the moderated mediation relationships proposed in Hypotheses 7a-b and 8a-b, I followed the approach outlined by Hayes (2013). Hypothesis 7a proposed that luck will moderate at first and second stages the positive relationship between ambition and extrinsic career success (salary and occupational prestige) via human capital,

such that the positive relationship will be stronger when a person experiences more resource-supplying luck events, as opposed to fewer resource-supplying luck events. Hypothesis 7a was not supported, as luck did not moderate the mediated relationship between ambition and career success, via human capital ($\beta = -.01$, *ns*). A bootstrap test found that the index of moderated mediation was also not statistically different from zero as the CI included zero (index = .02, CI95% -.04 to .00). Thus, these results are not supportive of *H7a*.

Hypothesis 7b stated that luck will moderate the positive relationship between ambition and career satisfaction via human capital, such that the positive relationship will be stronger when a person experiences more resource-supplying luck events, as opposed to fewer resource-supplying luck events. This hypothesis was not supported, as luck did not moderate the mediated relationship between ambition and career satisfaction via human capital ($\beta = .01$, *ns*). A bootstrap test found that the index of moderated mediation was not statistically different from zero as the CI included zero (index = -.01, CI95% -.03 to .00). As a result, *H7b* was not supported.

Hypothesis 8a stated that luck will moderate the indirect relationship between ambition and extrinsic career success, via social capital. A bootstrap test found that the index of moderated mediation was statistically different from zero as the CI did not include zero (index = -.05, CI95% -.09 to -.02). This indicated that luck moderated the indirect effect of ambition on extrinsic career success via social capital. In probing the conditional indirect effect, a bootstrap test revealed that the conditional indirect effect for social capital was strongest at one SD below the mean for luck (bootstrapped indirect effect = .41, CI95% .26 to .56) and that the conditional indirect effect for social capital was weakest at one SD above the mean for luck (bootstrapped indirect effect = .19, CI95% .01 to .36). Stated differently, unexpectedly, the positive indirect effect of ambition on extrinsic career success through

social capital was stronger among those with lower levels of luck. Thus, these results are not supportive of *H8a*.

Hypothesis *8b* was not supported, as luck did not moderate the relationship between ambition and career satisfaction via social capital ($\beta = .00$, *ns*). A bootstrap test found that the index of moderated mediation was not statistically different from zero as the CI included zero (index = $-.00$, CI 95% $-.02$ to $.01$). Thus, these results are not supportive of *H8b*. See Tables 12, 13, and 14 for a tabular depiction of these results, as well as Figures 5 and 6 for results within the context of the conceptual research model.

Table 12: Results of Moderation Analyses

Variable	Human capital	Social capital	Career satisfaction	Extrinsic career success
Age	.08	-.17**	.07	-.13**
Gender	.13*	-.03	.00	.13**
Org Tenure	.54**	-.02	.04	-.08
AMB	.25**	.25**	.18**	.05
HC			.11	.33**
SC			.04	.31**
ECS	.33**	.31**		
Luck	.15**	.08*	.13*	.04
Luck x AMB	-.06	-.12**		
Luck x HC			.03	-.10*
Luck x SC			.02	.08
R2			.09**	.33**

Note: * $p < .05$; ** $p < .01$; AMB = Ambition; HC = Human capital; SC = Social capital.

Table 13: Conditional Indirect Effects of Objective Luck Events on Career Success through Social Capital

Objective luck events	Effect	SE	CI95%	
			Lower	Upper
-2 SD	.41	.08	0.26	0.56
Mean	.34	.06	0.22	0.46
+2 SD	.19	.09	0.01	0.36

Note: Bootstrap sample size = 5,000 ($N = 417$)

Table 14: Summary of Findings

Hypothesis	Result
<i>H1a: Human capital will mediate the positive relationship between ambition and extrinsic career success.</i>	Supported
<i>H1b: Human capital will mediate the positive relationship between ambition and career satisfaction.</i>	Not supported
<i>H2a: Social capital will mediate the positive relationship between ambition and extrinsic career success.</i>	Supported
<i>H2b: Social capital will mediate the positive relationship between ambition and career satisfaction.</i>	Not supported
<i>H3: Luck will moderate the relationship between ambition and human capital, such that the positive relationship will be stronger when a person experiences more resource-supplying luck events, as opposed to fewer resource-supplying luck events.</i>	Not supported
<i>H4: Luck will moderate the relationship between ambition and social capital, such that the positive relationship will be stronger when a person experiences more resource-supplying luck events, as opposed to fewer resource-supplying luck events.</i>	Not supported, Moderated in unanticipated direction

<i>H5a: Luck will moderate the relationship between human capital and extrinsic career success (salary and occupational prestige), such that the positive relationship will be stronger when a person experiences more resource-supplying luck events, as opposed to fewer resource-supplying luck events.</i>	Not supported, Moderated in unanticipated direction
<i>H5b: Luck will moderate the relationship between human capital and career satisfaction, such that the positive relationship will be stronger when a person experiences more resource-supplying luck events, as opposed to fewer resource-supplying luck events.</i>	Not supported
<i>H6a: Luck will moderate the relationship between social capital and extrinsic career success (salary and occupational prestige), such that the positive relationship will be stronger when a person experiences more resource-supplying luck events, as opposed to fewer resource-supplying luck events.</i>	Not supported
<i>H6b: Luck will moderate the relationship between social capital and career satisfaction, such that the positive relationship will be stronger when a person experiences more resource-supplying luck events. as opposed to fewer resource-supplying luck events.</i>	Not supported
<i>H7a: Luck moderates the strength of the mediated relationship between ambition and extrinsic career success (salary and occupational prestige), via human capital, such that the positive indirect effects will be strongest when resource-supplying luck events are higher at both first- and second-stage moderation.</i>	Not supported
<i>H7b: Luck moderates the strength of the mediated relationship between ambition and career satisfaction, via human capital, such that the positive indirect effects will be strongest when resource-supplying luck events are higher at both first- and second-stage moderation.</i>	Not supported
<i>H8a: Luck moderates the strength of the mediated relationship between ambition and (a) extrinsic career success (salary and occupational prestige), via social capital, such that the positive indirect effects will be strongest when resource-supplying luck events are higher at both first- and second-stage moderation.</i>	Not supported, Moderated in negative direction
<i>H8b: Luck moderates the strength of the mediated relationship between ambition career satisfaction, via social capital, such that the positive indirect effects will be strongest when resource-supplying luck events are higher at both first- and second-stage moderation.</i>	Not supported

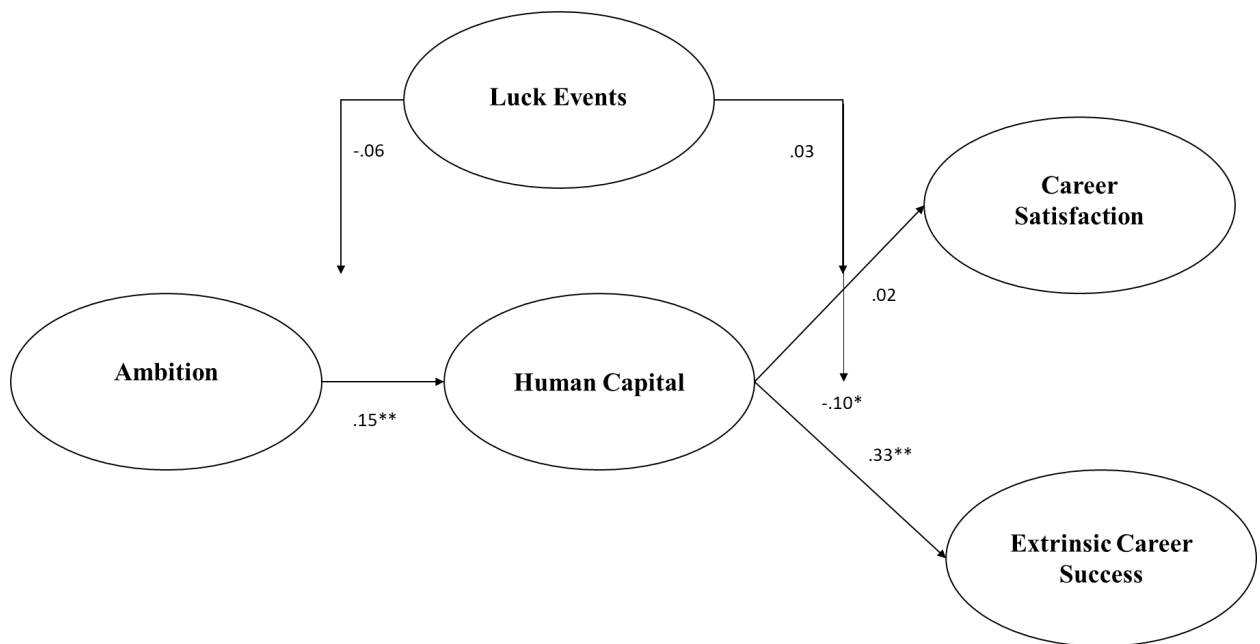


Figure 7: Structural Model with Human Capital

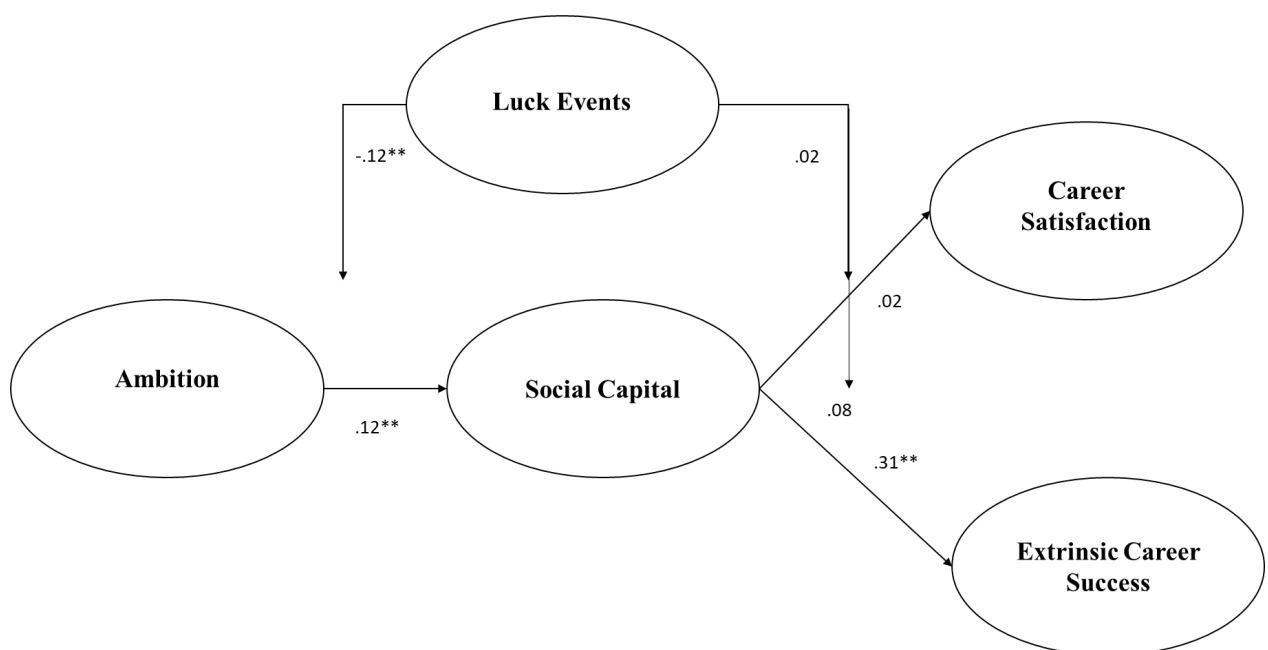


Figure 8: Structural Model with Social Capital

Brief Discussion

This final section begins with an interpretation of the results in relation to theoretical and empirical literature and highlights the theoretical and practical contributions of Study 3. Next, limitations are acknowledged and avenues for future research suggested.

Summary of findings. The primary objective of the present research was to examine whether luck impacts the relationship between ambition and career success, as mediated through human and social capitals. This study, based upon Hobfoll's (2001) COR theory, conceptualised luck as resource-supplying events that facilitate the translation of ambition into subsequent resource gains (human and social capitals) and career attainments. As explored in the Literature Review chapter, scholarly understanding of how and when ambition relates to career success remains grossly underdeveloped. One of this study's main contributions lies in the validation and inclusion of generalised ambition within the context of career success. Beyond that, it also contributes to the literature by examining the role that objective luck events play in the relationship between ambition and career success. In general, findings of Study 3 support the proposed conceptual model in as much as they highlight: 1) the integral role of ambition in extrinsic career success and career satisfaction, 2) mediating roles of human and social capital in the explanation of ambition's influence on extrinsic career success, and 3) the moderating role of resource-supplying luck. The following section discusses these findings in greater detail.

Human capital as mediator. The findings of the current study confirm the positive relationships between ambition and human capital and human capital and extrinsic career success. Secondly, findings of this study also affirm the mediating role of human capital in explaining the relationship between ambition and extrinsic career success. These findings are congruent with a number of theoretical expectations. As discussed earlier, ambition is interpreted as a condition of a person because it is a personal characteristic that would assist

them in obtaining their goals, and thus be considered a resource. Hobfoll's (1989) list of COR resources also includes "Motivation to get things done" and, as this COR list item is conceptually similar to ambition, it is reasonable to categorise ambition as a resource.

Further, ambition was theorised to be resource-supplying because it assists in getting things done, thus resulting in the acquisition of successive resource gains—like human capital and social capital. According to Hobfoll's (1988, 2001, 2011) definition, human capital is a resource because it is identified in Hobfoll's (2001) list of COR resources as advancement in education or job training, and social capital is considered a resource because social capital characteristics are stated in Hobfoll's (2001) list of COR resources, such as "support from co-workers," and "people I can learn from". Central to the second tenet of COR theory, the trajectory of resource acquisition that begins with ambition leads to human and social capitals and, ultimately, career success because each resource acquisition drives the desire to obtain more resources and protect against the loss of these resources, thus reinforcing the validity of the theoretical reasoning of COR theory in the present context. Applied practically, an ambitious person will use this resource to obtain more resources, such as further education. This educational resource will protect them from working for less financial compensation in the future because this educational attainment secures an esteemed job and also leads to the obtaining of additional resources in the form of career success (extrinsic and intrinsic). This finding is also consistent with theoretical expectations based upon signalling theory, where human capital is a signalling device (Singer & Bruhns, 1991; Strober, 1990) to organisations that job applicants are worthy to be hired because of their accumulated job-relevant knowledge. As such, Study 3's findings are in line with the parameters of signalling theory and provide further evidence that human capital signals to organisations that potential employees have personal attributes desired by organisations. Further, human capital practically supports the assumption that organisations are willing to pay premium wages and

to recruit, hire, and retain employees with large human capital investments (Ceci, 1991; Howard & Pike, 1986; Swenson-Lepper, 2005).

There is limited knowledge about the effects of ambition on career success and, as such, we do not know much about the explanatory mechanisms within this relationship. The present study enriches our understanding within this context by identifying mediating mechanisms. Taken further, the study findings tell us that the relationship between ambition and career success can be explained by human capital and social capital because it perpetuates the acquisition of additional resources in the career success trajectory. The career ambition study by Otto et al. (2016) looked at the relationships between career ambition and extrinsic and intrinsic career success but omitted any discussion of human and/or social capitals. As such, the relationships between these two variables remained elusive and undeveloped. By explaining the relationship between ambition and career success, an extension of knowledge about how that relationship is achieved has been contributed by the Study 3 findings that human capital and social capital mediate the relationship between ambition and career success. Prior to the present study, Judge & Kammeyer-Mueller (2012) were the only authors to examine the relationship between ambition and career success outcomes.

Social capital as mediator. The current study findings confirm the positive relationships between ambition and social capital and social capital and extrinsic career success, but not social capital and career satisfaction. Similarly, findings of this study confirm the mediating role of social capital in explaining the relationship between ambition and extrinsic career success, but not the mediating role of social capital in explaining the relationship between ambition and career satisfaction. Explained by Hobfoll's (2001) COR theory, the positive findings provide insight into prior knowledge about social capital. First, it recognises the importance of understanding the relationship between generalised ambition

and social capital and their relationships with extrinsic career success (Hobfoll, 2001; Judge et al., 1995; Ng et al., 2005; Seibert et al., 2001). This is impactful because evidence of social capital as a mediator of ambition's effect on extrinsic career success provides a new contribution. Judge & Kammeyer-Mueller's (2012) seminal piece on ambition confirms the role that ambition plays in the relationship between human capital and, ultimately, extrinsic careers success, but does not consider social capital in this relationship. Further, the mediation of social capital on the relationship between ambition and career success builds on existing social capital literature in the following ways (Burt, 1992; Coleman, 1990; Lin, 1990; Seibert et al., 2001). First, it introduces ambition as an antecedent to social capital, as previous studies do not acknowledge this relationship. Second, it identifies that social capital is also related to extrinsic outcomes: an index of income and occupational prestige. The work of Seibert et al. (2001) included income and promotions but omitted occupational prestige. Occupational prestige, though likely positively correlated to income, is important to consider as it provides another dimension to extrinsic career success. As such, by incorporating occupational prestige into the model and measuring extrinsic career success as an index of income and occupational prestige, the present study findings build upon the existing social capital literature stated in the seminal publication by Seibert et al. (2001). Further, the social capital mediation provides a mediating mechanism that explains how ambition relates to career success, thus contributing to our theoretical understanding of the link between ambition and career success. This mediation is also consistent with theoretical expectations. As such, the finding of mediation via social capital is consistent with COR theory and, in particular, its second tenet.

The moderating influence of luck. Contrary to expectation, luck did not moderate the relationship between ambition and human capital. Similarly, luck did not moderate the relationship between social capital and extrinsic career success. Luck also did not moderate

the relationships between human capital and career satisfaction and social capital and career satisfaction. However, luck did moderate the relationship between ambition and social capital, the relationship between human capital and extrinsic career success, and the mediated relationship between ambition and extrinsic career success via social capital. However, these moderations and mediated moderations were not in a positive direction; instead, luck moderated these in an unanticipated direction. As such, the results indicate that, in the presence of more resource-supplying luck events, the positive relationship between ambition and social capital, the positive relationship between human capital and career success, and the indirect relationship between ambition and career success via social capital, become weaker. Conversely, if luck “decreases”, the relationship between ambition and social capital, the relationship between human capital and career success, and the indirect relationship between ambition and career success via social capital, intensifies. These findings were counterintuitive to the hypotheses for the present study, as resource-supplying luck events appear to provide a type of substitutive effect for ambition as it relates and translates into social capital, a substitutive effect for human capital as it relates and translates into career success, and a substitutive effect for the translation of ambition into career success via social capital. According to Gardner, Harris, Li, Kirkman, and Mathieu (2017) substituting effects exist when both the predictor and moderator exert similar effects on the criterion and neither adds value beyond the other. Applied to this thesis, the substitutive effect means that the presence of resource-supplying luck events creates a type of neutralisation for ambition when examining social capital, and human capital when examining career success. As such, the relationship between ambition and social capital is weaker, as is the relationship between human capital and career success, when luck is considered. Further, resource-supplying luck events provide a neutralising effect on the indirect relationship between ambition and extrinsic career success (via social capital), also resulting in a weaker indirect relationship.

Explanation of non-significant findings. A potential factor that explains the insignificant findings in Study 3 may be inherent to the process of quantifying social capital. Despite following best practices based upon the existing social capital literature (Seibert et al., 2001), the measure requires the respondent to recall their network and reflect on their influence in their lives. This inherently employs an element of attributional bias that may taint the quantification of social capital. As mentioned in the Literature Review, the concern for social capital researchers in regard to attributional bias is that the identified person may be perceived by the respondent to be integral to their career success but was not actually a component of their social capital. This inherently challenges the existing measures of social capital that afford the existence of attribution (Bright, Pryor & Wilkenfeld, 2005; Darke & Freedman, 1997; Hafer & Gresham, 2008; Wohl, Stewart, & Young, 2011). If social capital were not accurately captured, the strength of relationships between constructs would not be accurately captured either.

Similarly, despite the best efforts of the present study to avoid attributional bias by constructing a measure of objective luck events, attributional recall was also present when the respondents considered the measure of luck events. Self-reported data may be vulnerable to biases (such as narcissism), particularly in personality and achievement measures (such as ambition, income, and education) under examination in the present study. For example, if a respondent scored high on narcissism, he/she may be hesitant to acknowledge the luck events in the survey as having occurred. Respondents may also be limited by their own recall bias when responding to the luck event inventory. Further, according to the fundamental attribution error, people have a tendency to underemphasise situational factors when making attributions about their actions (Ross & Nisbett, 1991). Caplow's (1954) study concluded that error and accident often have a greater impact on their careers than the participants were

willing to concede (Bright, Pryor & Wilkenfeld, 2005). As such, it is possible, and maybe probable, that luck events were underreported.

Contributions of the study. Study 3 of this thesis has provided both theoretical and practical contributions. As noted throughout the various chapters of this thesis, the current study has made several contributions to the ambition, human capital, social capital, career success, and luck literatures. This section will present a summary of the theoretical and practical contributions.

Theoretical contributions. Theoretically, Study 3 has provided evidence that social capital mediated the relationship between ambition and extrinsic career success. The present study extends Judge & Kammeyer-Mueller's (2012) recognition of the importance of including ambition in career success discussions by providing evidence that ambition can also be a distal, stable trait (independent variable). Next, the mediating role of human capital in the relationship between ambition and career success provides a theoretical contribution by further substantiating the work of Ng et al. (2005) on the importance of human capital and stable individual difference (ambition) variables in understanding career success. Further, human capital explains how ambition influences outcomes, like career success. The findings provided by Study 3 about the moderating role of luck in the relationship between ambition and social capital provides a contribution to the ambition, luck, and COR theory literatures. More specifically, the study findings contribute to the luck and COR theory literatures by validating the arguments that luck events can, in a meaningful and significant way, be resource-supplying or -diminishing. The present study has also contributed to the human capital, luck, and careers research by providing evidence that luck negatively moderated the relationship between human capital and career success. Most importantly, the present study examined broader contributing elements to career outcomes beyond the traditional motivational and human capital elements by examining luck.

Practical implications. Practically, the present investigation provided several valuable insights. First, the acknowledgement of luck as a contributor to career success will allow society and policy makers to be aware of the role that luck may have on future persons, and design policies to provide additional resources to those affected. An example of this is a program offering for persons who receive a significant inheritance, career counselling, or financial guidance where they can be instructed on how to avoid the potential negative impact of certain luck events in terms of career success. More specifically, a framework for best practices for recipients of inheritances could be developed to be applied by banks, financial planners, and other financial institutions to guide recipients through the process and mitigate the risk of diminished ambition as a result of the inheritance. Second, a greater understanding about the role that luck and ambition play in career outcomes will allow the development of more effective career counselling and career development strategies by understanding the importance of both trait-based and non-agentic influences. It will allow career experts to better communicate how much of one's career is controllable and how much is dependent on levels of ambition, educational attainment, or the occurrence of luck events. With a deeper understanding of the role that both ambition and luck play in career success, a worker can better craft and manage expectations of their own career path. Further, career counselling professionals can raise awareness for their clients to acknowledge luck events in their career trajectory and to develop tools to best utilise them, as opposed to letting these luck events impact their ambition or careers in an undesirable way.

Limitations. By relying only on a single source of data for the survey study, CMV may arise (Podsakoff et al., 2012; Spector, 2006). While it can lead to data being misinterpreted, it is possible that problems relating to CMV may not be as severe as once feared (Lindell & Whitney, 2001). For instance, Spector (2006) referred to CMV as an urban legend and argued that the assumption that CMV is automatically present in studies using a

single method is an oversimplification and distortion of the effect. Nonetheless, as the present study is time-lagged, the concern for CMV occurring is significantly reduced.

In an attempt to maximise the response rate, the questionnaire was kept as brief and concise as possible. While longer measures of constructs could have been used, the risk of respondent attrition was too high. To maintain objectivity and minimise attributional bias, a measure of defined luck events was used in this study. The measure may not capture every possible luck event that could have had an impact on an individual's career trajectory. Additionally, when measuring items of a reflective nature, recall bias is a limitation to be considered. This study endeavoured to avoid this bias by choosing significant luck events that can easily be recalled, but the risk of recall bias or interpretation of the event remains a concern.

Future research. The preceding discussion offers several avenues for future research relevant to both theory and methodology, which may help advance current knowledge in ambition, luck, and career success literatures. At a broader level, the present findings suggest that it would be worthwhile for future luck investigators to integrate more fully Hobfoll's (2010) COR theory to further our understanding of how resource-supplying luck events influences people's careers. Although the concepts of luck events and chance have begun to receive growing attention within a careers landscape, existing research has been predominately focused around subjective luck that includes attributional and recall bias. As such, embracing objective luck events within the scope of careers contexts requires future attention from the research community. Future researchers may consider expanding the measure of content validated luck events in this study to potentially capture more impactful events. By fine tuning the measure of objective luck events, a more developed measurement system may emerge to be integrated into career success research. Further, in developing a luck event measure that is as free of attributional bias as feasible, it may be important for

future researchers to consider the attributional style of the respondents. Attributional style is an individual-differences variable that refers to the habitual ways in which people explain their positive and negative life experiences (Abramson et al., 1978). By exploring attributional style, the lens in which the respondent views the luck events may provide additional insight into the degree of influence that luck events represent in the greater picture of career success.

Social capital, though well studied and reported, is an area of opportunity for future research (Beaudoin & Thorson, 2004, 2006; Moy et al., 1999; Putnam, 2000; Seibert et al., 2001; Zhang & Chia, 2006). As identified in the limitations of this study, a validated and non-attributional measure of social capital would be useful to pursue in future research. The current measure is extensive, difficult to implement, and lacks the ability to measure social capital without the confines of attribution and recall. As such, continued work on the development of a social capital measure would be useful to pursue.

Conclusion

The intention of the present research was to examine whether luck impacts the relationship between ambition and career success, as mediated through human and social capitals. This study extended Hobfoll's (2001) COR theory and systematically examined the combined interactive effects of luck on the relationship between ambition and career success, as explained by human capital and social capital. The findings of this study support the conceptual model by examining the integral role that ambition plays in extrinsic career success by better understanding the mediating forces of human capital and social capital within extrinsic career success, and exploring the moderating impact that objective luck has on the mediated relationship of ambition and extrinsic career success via social capital, albeit in a different direction than hypothesised.

Chapter Five: General Discussion

Summary of Findings

The primary objective of the present research was to validate the 5-item ambition scale offered by Duckworth et al. (2007), develop and content validate an index of resource-supplying objective luck events, and examine the moderating role that luck plays in the relationship between ambition and career success, as mediated through human capital and social capital. In doing so, this thesis drew upon and extended Hobfoll's (2001) Conservation of Resources theory. There are ample studies that examine human capital, social capital, and career success, however there are no studies that examine the relationship between them within the context of ambition and luck. The findings of this thesis contribute to our knowledge and the existing literature by 1) validating a brief 5-item scale of ambition to be used in future social sciences research, 2) measuring objective luck events and conceptualising them as resource-supplying, 3) substantiating the integral role of ambition within the context of career success, 4) demonstrating the mediating role of human capital and social capital in the translation from ambition to career success, and 5) providing evidence that luck does influence the mediated relationship of ambition and extrinsic career success via social capital, albeit in a negative (and unanticipated) direction.

Validation of ambition scale. Study 1 of this thesis provided evidence for the reliability and construct validity (convergent and discriminant validity) of the 5-item ambition scale developed by Duckworth et al. (2007). This scale validation is important because it provides a 5-item scale that captures generalised ambition as a construct unique to previously validated scales (such as career ambition, conscientiousness, and drive). It can be concluded, on the basis of these findings and the use of this scale in Study 3 of this thesis, that this ambition scale can be used in subsequent social sciences research. This will allow future psychology, sociology, and management scholars to measure and assess levels of

generalised ambition in subsequent studies or psychometric testing in an accurate and meaningful way.

Objective luck events. Study 2 of this thesis created and content validated a measure of resource-supplying luck events to be used in relevant, future studies within the social sciences. This has contributed to existing research by expanding the theoretical understanding of objective luck events within a careers context and providing an alternative to interpreting luck or chance under the influence of human attribution. The luck events developed and applied in this study were resource-supplying. This is important because it contributes to Hobfoll's (2001) COR theory by identifying that, within this theoretical perspective, resources can be obtained through non-agentic actions, such as luck. Further, this study provides a validated index of resource-supplying luck events to be used in future careers studies that endeavour to measure the impact of objective luck events with minimal influence from attributional and recall bias.

Tested conceptual model. Study 3 found that both human capital and social capital mediated the relationships between ambition and extrinsic career success. These findings apply the principles of COR theory to careers constructs and further reinforce the relevance of COR theory to careers research. More specifically, the human capital mediation broadens our understanding of how human capital interacts with trait-based characteristics (like ambition) and career outcomes (Ng et al., 2005). The findings of Study 3 also reinforce the importance of "who you know" in the explanatory evaluation of what contributes to extrinsic career success and emphasises the importance of understanding the relationship between ambition and social capital, and their relationships with extrinsic career success (Hobfoll, 2001; Judge et al., 1995; Ng et al., 2005; Seibert et al., 2001). This is important because it broadens the discussion around antecedents to social capital outside of gender, race, occupational status, mentoring, and human capital (Burt, 1997; Coleman, 1988; Lin, 2000;

Lin et al., 1981; Seibert et al., 2001). Thus, social capital provides a new theoretical and meaningful explanation for the relationship between ambition and extrinsic career success. The Study 3 findings that luck moderates the relationships between ambition and social capital, human capital and career success, and the mediated relationship between ambition and extrinsic career success via social capital were contrary to expectation. These findings are important because they identify the neutralising effect resource-supplying luck events have on constructs like ambition and human capital, as the resource-supplying luck events appear to make human ambition and capital resources less necessary. The findings provide a contribution to our understanding of the influence that non-agentic factors, like luck, have on agentic elements of the career success trajectory and, as such, contribute to the ambition, luck, and COR theory literatures. The following sub-sections will discuss the mediations and moderations of the tested conceptual model from Study 3 in greater detail.

Human capital and social capital as mediators.

Human capital. As stated, the present study found that human capital mediated the relationship between ambition and career success. This mediation is congruent with theoretical expectations. It broadens our understanding of how human capital interacts with trait-based characteristics (like ambition) and career outcomes (Ng et al., 2005) and, as such, the mediation findings establish ambition as an antecedent to human capital, thus further expanding our understanding of what contributes to the development of human capital.

More specifically, these findings make a theoretical contribution by reinforcing and extending Hobfoll's (2001) COR theory. Theoretically, the finding of mediation via human capital is consistent with COR theory as ambition is a personal characteristic and, according to the second tenet of COR theory, it is reasonable to expect that an individual with a high level of ambition will strive for attainment as a resource investment to protect themselves from a future loss of achievement and to ensure increased resources—like educational

attainment. This education, as a resource, will protect the person from accepting less financial compensation in the future because this educational attainment ensures a certain level of employment and leads to the acquisition of additional resources in the form of career success (extrinsic). This logic explains the anticipated finding that human capital mediates the relationships between ambition and career success, as people with a high level of ambition (a resource) seek out more resources. This educational attainment (also a resource) translates into greater resource attainment (career success). Thus, this Study 3 finding applies the principles of COR theory to careers constructs and further reinforces the relevance of COR theory to careers research.

The finding that human capital mediates the relationship between ambition and extrinsic career success is also consistent with the theoretical expectations of signalling theory, where human capital functions as a signalling device (Singer & Bruhns, 1991; Strober, 1990) to organisations because job applicants are worthy to be hired owing to their accumulated job-relevant knowledge. Following this logic, this finding is consistent with the core beliefs of signalling theory and provides further evidence that human capital acts as a signal to organisations that these attributes are indicators of the value and quality of a potential employee.

The mediation of human capital in the relationship between ambition and career success also further substantiates the validity of contest-mobility theory within a careers context. An environment that follows the contest-mobility norm allows for a fair and open contest for each promotion decision and assumes that “employees’ attainments are largely a function of how hard they work and the ability, education, and training they possess” (Rosenbaum, 1984, p. 19; Wayne et al., 1999). This implies that the contest-mobility norm is represented by a hybrid of motivation and human capital theories, whereby motivation may be represented by the employee’s efforts on the job and human capital by the employee’s

education level, work experience, and participation in training programmes (Wayne et al., 1999). As ambition represents a motivational influence, and educational attainment represents human capital, the findings that human capital mediates the translation between ambition and career success soundly represents this hybrid of motivation and human capital theories that the contest-mobility perspective explains. As such, the present study findings empirically and theoretically support the contest-mobility theory within the career success discussion.

The present study responded to Judge and Kammeyer-Mueller's (2012) call for future research examining a variety of intrinsic and extrinsic outcomes of ambition by expanding the empirical knowledge in regard to the role of ambition within the career outcomes landscape. As ambition had not been extensively studied within a human capital or careers context, Study 3 provides an empirical contribution by substantiating ambition's role in its relationship with extrinsic career success, as mediated via human capital. As such, the findings of Study 3 demonstrate that ambition is both important and relevant to commonly studied forms of career success. Based on these findings it is reasonable to argue that ambitious people acquire more education and earn more income.

While Judge and Kammeyer-Mueller (2012) examined ambition within this context, they viewed ambition as a middle-level trait, and thus predicted ambition to be a partial mediator of the relationship between personality attributes and occupational outcomes, like income. As such, while Judge and Kammeyer-Mueller's (2012) work further substantiated the relevance of ambition in the careers discussion, it did so without ambition as the independent variable. By acknowledging ambition as the independent variable in the model of Study 3, and providing evidence of its relevance in understanding career success as mediated by human capital, this study contributes empirically to the existing careers literature. The present study also extends our knowledge of the role ambition plays on career

satisfaction (intrinsic career success). While Judge and Kammeyer-Mueller (2012) showed that human capital leads to extrinsic success and, subsequently, life satisfaction, they did not examine the direct impact that human capital has on career satisfaction. In this way, despite being nonsignificant, the Study 3 findings expand on Judge & Kammeyer-Mueller's (2012) work.

The findings of the present thesis recognise the increasing salience of understanding the relationship between generalised ambition and human capital and how they translate into career success (Judge et al., 1995; Ng et al., 2005). The findings of Study 3 highlight the relevance of generalised ambition as a construct within the human capital and careers landscapes, which need further exploration (Otto et al., 2017). As stated by Otto et al. (2017), career ambition expresses the motivation in one's mind to actively further their career by having a strong focus on one's work life and career, and as such, provides insight into the career specific attributes of an individual. It excludes a more generalised ambition that exists outside of a careers context. While generalised ambition has now been shown to translate into career success outcomes, it also opens up the dialogue to explore the possibility that being ambitious outside of a careers context can also influence other parts of one's life which indirectly intersect with educational attainments or career success outcomes. For example, Judge & Kammeyer-Mueller's (2012) study found that participants who were more ambitious had higher levels of attainment in both educational and work domains. This success was then associated, although weakly, with higher levels of life satisfaction and longevity (Judge & Kammeyer-Mueller, 2012). Perhaps generalised ambition, when associated with human capital, is also interacting with life satisfaction outcomes outside of the quantifiable outcomes—like educational attainment. This finding may aid future scholars by substantiating that generalised ambition impacts both career and intrinsic non-career outcomes. Taken further, these findings extend Judge & Kammeyer-Mueller's (2012)

evidence that ambition is associated with non-career outcomes, like life satisfaction and longevity, via human capital.

In short, the mediating role of human capital in the relationship between ambition and career success brings value to social science research by further substantiating the work of Ng et al. (2005) and by highlighting the importance of human capital and stable individual difference (ambition) variables in understanding career success. While human capital has been extensively studied, Ng et al. (2005) suggested that researchers may need to examine other predictors and moderators to more fully understand the complex phenomenon of career success. The present thesis did so by examining how a stable individual trait, like ambition, translates in its relationship with human capital and career success. Further, and perhaps more importantly, human capital as a mediator of ambition explains how ambition influences outcomes, like career success. With the exception of Judge & Kammeyer-Mueller's (2012) work, human capital has not previously been identified as an explanatory mechanism between ambition and career outcomes. In this way, this thesis has furthered existing knowledge.

Social capital. The mediation of social capital in the ambition–extrinsic career success model reiterates the importance of the construct in the greater careers discussion. As such, social capital provides another explanation for why ambition relates to extrinsic career success. This finding can be anticipated within the lens of the sponsored-mobility model. Under a sponsored-mobility norm system, certain individuals will receive special attention from more senior managers, including their supervisors (Dreher & Bretz, 1991), suggesting that subordinates who receive support and career-related coaching from their supervisors have been “selected” for sponsorship (Wayne et al., 1999). As a result of the supervisor's support, the subordinate may perform at a higher level, and ultimately be rewarded via career success (Wayne et al., 1999). When this perspective is applied to the model of Study 3, it can

be argued that, if an ambitious person has more social capital, social capital can subsequently translate into sponsorship and supervisory support which results in more income and occupational prestige. As such, the sponsorship-mobility model explains the mediating effect of social capital on the translation of ambition to extrinsic career success. When both mediations are taken together, and in accordance with both the contest-mobility and sponsorship-mobility models, the Study 3 findings indicate that both human capital and social capital are relevant in translating ambition to extrinsic career success.

However, human capital and social capital did not mediate the relationships between ambition and career satisfaction. As expected, human and social capitals both mediated the translation of ambition to extrinsic career success. As stated, the human capital mediation can be explained by Turner's (1960) contest-mobility perspective on career success. According to the contest-mobility norm, individuals make (education) investments that should result in increased rewards from the employer, including salary increases. This logic explains that increased rewards should translate to greater career success, both extrinsic and intrinsic. However, the study findings do not support that human capital explains the relationship between ambition and career satisfaction. This suggests that human capital and the contest-mobility model may be more important for explaining how ambition relates to extrinsic career success. Social capital, explained by the sponsorship-mobility norm, mediated the relationship between ambition and career success, but did not mediate the relationship between ambition and career satisfaction. Within a sponsored-mobility norm system, only some individuals will receive special attention from their superiors (Wayne et al., 1999). Subordinates who receive support and career-related coaching from their supervisors have been "selected" for sponsorship, and this sponsorship results in career success outcomes like increases in income (Wayne et al., 1999). However, this sponsorship within the present research model does not translate into greater career satisfaction, inferring

that social capital resources (like sponsorship and social networks) do not explain the relationship between ambition and career satisfaction. A possible explanation for this is that, although subjective career success should theoretically be the culmination of individuals' total work experience across multiple jobs and organisations, Ng and Feldman (2014) found that employees' subjective career success is especially influenced by their perceptions of their current jobs (e.g., job dissatisfaction, low work engagement) and organisations (e.g., organisational commitment, lack of promotional opportunities). Further, Ng and Feldman (2014) also found that current supervisors have an inordinate impact on employees' levels of subjective career success. As such, an employee may have social capital that has been established over many years, but this social capital may not be relevant to their current career satisfaction as it may not apply to their current job. Hence, it is likely that a respondent will recall their social capital and career satisfaction within their current context, as opposed to their career as a whole. This logic may be substantiated by the finding that social capital resources do not necessarily explain the relationship between ambition and career satisfaction.

The moderation of luck. As discussed, Study 3 found luck to moderate the relationships between ambition and social capital, human capital and career success, and the mediated relationship between ambition and extrinsic career success via social capital in an unanticipated direction. These findings were not as expected and were not in line with the theoretical assumptions of COR (Hobfoll, 2001). As the moderator in the study is (resource-supplying) luck events, COR theory would suggest that this moderator would intensify the effect of the relationships between ambition and social capital, human capital and extrinsic career success, and the translation of ambition to extrinsic career success. Instead, however, the resource-supplying luck events appeared to provide a type of substitutive effect for ambition as it relates and translates into social capital, a substitutive effect for human capital

as it relates and translates into career success, and a substitutive effect for the indirect relationship between ambition and career success via social capital. As discussed earlier, Gardner et al. (2017) states that the substitutive effect occurs when the predictor and moderator have the same directional relationships with the criterion, and the conditional X–Y (human capital–extrinsic career success) relationship is weakened as Z (objective luck events) increases. Thus, resource-supplying luck events substitute for ambition and human capital and, consequently, the intensity of the relationships between ambition and social capital and human capital and career success are weaker in the presence of luck. Similarly, and consistent with the above finding, luck negatively moderated the indirect relationship between ambition and extrinsic career success via social capital. As such, when resource-supplying luck events increased, the strength of the mediated relationship between ambition and extrinsic career success (mediated via social capital) decreased in intensity. Each moderation will now be discussed in extensive detail.

As stated, Study 3 found luck to negatively moderate the relationships between ambition and social capital. The contrary findings can be explained because the resource-supplying luck event (financial windfall) substitutes for a person's ambition to develop and cultivate a social network, as they are not in a position that relies as heavily on the benefits of that network. In this case, their reduction in ambition may signal disinterest toward or engagement from the social network, thus diminishing the relationship between ambition and social capital. As such, the unanticipated results may potentially be explained by Spence's (1973) signalling theory. The simple slope analysis provides additional insight by explaining that the resource-supplying luck events are providing a type of substitutive effect for ambition as it relates and translates into social capital. For example, when resource-supplying luck events occur, they substitute for ambition and result in a similar amount of social capital as when luck was not considered. However, with the moderating effect of luck

events factored in, ambition's influence becomes weaker in this relationship. Thus, resource-supplying luck events neutralise ambition, and consequently the intensity of the relationship between ambition and social capital is weaker in the presence of luck. As stated, the unanticipated results suggest that resources do not necessarily have an additive effect; but, instead, a substitutionary one. According to Kiazad, Hotom, Hom and Newman (2015), COR's resource substitution premise holds that resources may be substituted for one another to achieve the same goal. As such, the present study findings that resource-supplying luck events substitute for ambition and result in a similar amount of social capital as when luck was not considered theoretically extend COR resource substitution, as the resources were not additive, but substitutionary.

Similar to the above finding, the present thesis also discovered that when resource-supplying luck events increased the strength of the relationship between human capital and career success decreased. As such, while luck did moderate this relationship in the proposed model, it did so in the opposite way to that hypothesised. As discussed above, the substitutive effect can help explain the finding that, when resource-supplying luck events increased, the strength of the relationship between human capital and career success decreased. Substituting effects indicate that both the predictor and moderator exert similar effects on the criterion and neither adds value above the other (Gardner et al., 2017). The contrary findings can be potentially explained due to a neutralising effect resource-supplying luck events have on human capital, as the resource-supplying luck event (e.g., financial windfall) has made human capital resources less necessary. These findings may also be further explained by the premise of COR's resource substitution, as when resource supplying luck events occurred, they substituted for the resource of human capital, but did not result in a higher level of career success than before (Kiazad et al., 2015).

Luck was found to negatively and significantly impact the strength of the indirect relationship between ambition and extrinsic career success via social capital. Consistent with the hypotheses, this model did achieve moderated mediation, but the moderating influence of luck was in an unanticipated direction. Ambition translates to extrinsic career success via social capital but lessens in intensity when luck intervenes. One explanation for this finding is evident when considering the substitution effect (Gardner et al., 2017). Assuming luck events negatively moderate in first-stage moderation, a resource-supplying luck event neutralises ambition as this resource acquisition reduces intention to develop social capital. As such, with more luck comes less ambition and less social capital. When luck negatively moderates the second-stage moderation, a resource-supplying luck event also lessens the intensity of the relationship between social capital and extrinsic career success because more resource-supplying luck events have substituted for social capital; i.e., because there is more resource, the need to develop and utilise social capital's influence on career success diminishes. Taken together, it is possible that negative moderation is happening at both first and second stages.

This 2-staged, negative moderation may also be potentially explained by Spence's (1973) signalling theory. Because a luck event has provided more resources at the first stage, ambition is reduced and sends out a much weaker signal to networking contacts and social networks, thus reducing the intensity of the relationship between the two constructs. At the second stage of moderation, the intensity of the effect of social capital is also reduced because of a resource-supplying luck event resulting in, again, a weaker signal to organisations. In turn, the overall strength of the mediated relationship between ambition and extrinsic career success via social capital is reduced because each stage of the relationship experiences a reduction in intensity of signalling as a consequence of resource-supplying luck events. Based upon the above reasoning, the substitution effect, and signalling theory, the

unexpected findings in regard to this study's moderated mediation can be potentially explained and justified.

The present study's findings about the moderating role of luck in the relationship between ambition and social capital contributes to the ambition, luck, and COR theory literatures by validating the arguments that luck events can, in a meaningful and significant way, be resource-supplying or resource-diminishing. The above-mentioned finding also adds value to the ambition literature because it not only contributes findings about ambition as a generalised construct, but also provides evidence that ambition's influence can be diminished by resource-supplying luck events. Further, the present thesis has also contributed to the human capital, luck, and careers research by discovering that luck negatively moderated the relationship between human capital and career success. As such, the insight that having luck events on your side can actually diminish the strength of the relationship between human capital and career success contributes to the existing human capital and careers discussions. More specifically, it is interesting to consider that the intensity of the human capital signal to organisations may be diminished when luck is considered. As such, Spence's (1974) signalling theory, while explanatory and relevant, becomes less influential within the context of the human capital and career success relationship when moderated by luck events because the impact of the human capital signal becomes weaker. Further, as this relationship has not previously been examined, this finding contributes preliminary new knowledge as well as opens up the topic for further discussion and exploration by social scientists in the future.

Most importantly, by examining the role of luck, the present thesis examined broader contributing elements to career outcomes beyond the traditional motivational and human capital elements. While Bright, Pryor, and Harpham (2005) investigated the role of chance events as influences in career decision making, their work focused more specifically on chance events, how they applied to the career decision making process, and the role that LOC

played in the relationship between chance events and career decision making. As stated, the work of Bright, Pryor, and Harpham (2005) focused on chance events, which they defined as “unplanned, accidental, or otherwise situational, unpredictable, or unintentional events or encounters that have an impact on career development and behaviour” (Rojewski, 1999, p. 269). The present thesis built upon the work of Bright, Pryor, and Harpham (2005) by examining luck, a similar (though still distinct) construct to chance, in relation to career success and provided both empirical and theoretical contributions. In doing so, this thesis has raised the overall awareness of the importance of considering the non-agentive (luck) within a career success context in a body of literature that has thus far been somewhat underdeveloped (Ma, 2002). While the present study has not provided robust evidence regarding the role luck plays within a careers context, it has provided some indication that there are non-agentive influences at play within the development of career success. In doing so, it has contributed to the luck literature by defining the kinds of luck that can be applicable to careers settings.

Explanation of nonsignificant findings.

Luck. The nonsignificant findings in this thesis only add to the existing ambiguity about how to measure and quantify the influence of luck (André, 2006; Bright, Pryor, & Harpham, 2005; Hart et al., 1971; Ma, 2002). While existing literature on chance, luck, and serendipity does acknowledge its significant role within a success context, the exact degree of influence luck provides remains elusive (Barrett, 2006; Ma, 2002; Pritchard & Whittington, 2015). It is possible that, despite the best efforts of the researcher to avoid attributional bias in Study 3, due to the nature of luck events and personal reporting of performance, it is simply too difficult to avoid attributional bias in a meaningful way. If respondents did not acknowledge one of the measure items because they do not recall the occurrence in the same way, it would be possible that there was underreporting of the luck event and, as a result, nonsignificant findings. An example of this would be the acknowledgement of the luck item:

“Did your occupation experience unforeseen growth (e.g., builder and housing boom)”.

Perhaps a builder has only ever worked in the climate of a housing boom, and as such, categorises the housing boom economy to be the norm and not indicative of a boom market.

Despite the factual nature of the measure item, it is still feasible that an element of interpretation or bias from the respondent may exist. There is also a large body of literature that discusses the inaccuracy of retrospective accounts (Bright, Pryor, & Harpham, 2005).

For example, Bright and Burton (1994, 1998) demonstrated that a subject’s ability to provide accurate retrospective accounts of their performance on a cognitive task could not account for their task performance because participants reported that they claimed to be guessing and felt that performance on the task was beyond their control. Caplow’s (1954) study concluded that error and accident often have a greater impact on their participants’ careers than they were willing to concede (Bright, Pryor, Chan, & Rijanto, 2009). Further research using different retrospective protocols found subjects could report more accurately on their performance, and hence had a greater level of control (e.g., Newell & Bright, 2002). Thus, this body of literature raises concerns about the reporting of chance events because they may be somewhat labile and dependent upon how people are asked about their career decisions (Bright, Pryor, & Harpham, 2005). Like cognitive dissonance, the tendency to provide post hoc rationalisations of behaviour indicate the opposite tendency to underreport such events (Bright, Pryor, & Harpham, 2005). Furthermore, the relative number of chance events experienced compared to planned events, or the sequencing of chance and planned events, could all possibly influence the experience and reporting of chance events (Bright, Pryor, & Harpham, 2005). As such, it is feasible to interpret the issues with chance event reporting to be consistent with the challenges of capturing objective luck events without recall bias, and further work is required to better understand the nature of techniques used to elicit information about them.

The present thesis endeavoured to avoid attributional bias by constructing a measure of objective luck events and conducted a content panel validation to create a measure of events that could be interpreted objectively by respondents. However, based on a portion of the existing luck literature, successful respondents do not acknowledge the role of the non-agentic as it would undermine their efforts or achievements (Glick, Miller, & Cardinal, 2008; Zuckerman, 1979). For example, reviews by Miller & Ross (1975) and Zuckerman (1979) of the research on attributions for success and failure show that attributions for success are usually internal and attributions for failure are usually external. This means that a person will attribute their successes to themselves or internal attributes but attribute their failures to external factors beyond their control. As such, successful people will, despite recognising a luck event, not accept it as a contributor to their success, but only as a contributor to their failures. Glick et al. (2008) found in their study that successful academics did not want to hear that randomness could explain some of their success, and in particular, that their early success may have led to a cumulative advantage and ultimate later success. As the authors state, this is drawn out of attribution theory: where individuals tend to attribute success to internal causes, such as ability (Glick et al., 2008). To this point, in the example of the builder and the housing boom above, the respondent may only want to attribute his/her success to his/her abilities and, as such, will deny the occurrence of a housing boom, or at least its influence on his/her success. While the present study did not ask respondents to attribute their successes, it did ask them to identify and acknowledge certain events that imply the non-agentic (luck). As such, self-reported data may be vulnerable to these biases, particularly when considering personality and achievement measures. Respondents may also be limited by their own recall bias when responding to the luck event inventory. Taken together, it is possible that the weak or insignificant findings for luck may be a consequence

of underreporting by respondents who failed to recall events or hesitated to attribute (or partly-attribute) their successes to objective luck events.

Another potential explanation for the insignificant findings regarding luck is that ambition's effects may not depend on luck. As explored throughout this chapter, ambition was found to be a significant and formidable construct when considering career success. However, perhaps the lack of mediated moderation by luck indicates that ambition's influence on career success is independent of luck altogether. As stated by Judge and Kammeyer-Mueller (2012), ambition is a concept that is pervasive yet poorly understood, is infrequently studied, and is still fragmentary. Ambition has been found to be positively related to educational attainment, occupational prestige, and income by the present study and by Judge & Kammeyer-Mueller's (2012) seminal publication. Perhaps ambition's influence simply does not depend on luck, but on other influences like personality (extraversion), socioeconomic background, or political skill (Judge & Kammeyer-Mueller, 2012). As the exploration of generalised ambition within the careers literature is still in its infancy, further studies and findings that consider its influence may bring further clarification to light.

Another consideration is that perhaps the present study utilised the less appropriate form of Pritchard's two kinds of luck to derive the hypotheses around the type of interventions luck would provide. For example, the present study referenced Pritchard's (2010) second form of luck which is entirely compatible with achievements and success and is described to be "environmentally" influential. As such, the compatibility of environmental luck and achievement demonstrates that it can be a matter of luck that one is in a position to exhibit an achievement, but that this does not entail that it is any less of an achievement (Pritchard, 2010). Under this rationale, achievements can be lucky. His first form of luck, however, is incompatible with achievements because it infers that the success in question was not because of the exercising of the agent's abilities, but rather down to luck (Pritchard,

2010). According to this form of luck, skill and aptitude are not accounted for and, as such, achievements are because of luck alone. Under this type of luck, and within the context of the research model of the present thesis, luck events would become the independent variable, as ambition would not have any bearing on human capital because this definition would imply that luck alone resulted in educational attainment/achievements. This could be possible as luck and human capital were positively and significantly correlated ($\beta = .17, p < .01$). Despite this, the existing luck literature grounds itself in the second kind of luck specified in the present study, as using the first kind of Pritchard's (2010) luck would completely negate any influence of the agentic (André, 2006; Dowding, 2017; Ma, 2002). As the present study endeavoured to explore the role of both the agentic and the non-agentic, it did not employ Pritchard's first kind of luck (which is consistent only with the non-agentic).

Another explanation could be that, as discussed above, Study 3 hypothesised that people must invest their resources to protect themselves from future resource loss, as well as to gain more resources (according to Hobfoll's [2001] COR theory). Hence, a luck event would be considered a source of unplanned or uncontrolled resources gains (a resource-supplying luck event) and, consequently, a person who experienced a luck event would then have an additional resource gain that facilitates further resource acquisition, such as further human and social capitals attainments or career success outcomes. As this rationale did not produce the anticipated results, the interpretation of Hobfoll's (2001) theory can potentially be challenged. Perhaps these results could be explained by applying the second corollary of COR, but from a different perspective. As such, and also stated within COR theory, an investment of resources demands a price that must be considered, because if such an investment does not curtail the tide of resource loss or contribute to the gaining of other resources, then the net effect will leave the individual or group in a position of diminished capacity (Hobfoll, 2001). Under this interpretation of the second tenet, the resource-

supplying luck event would provide a new resource, but this resource gain would come at the price of ambition and/or social capital losses, thus the investment of luck-supplied resource would not curtail the tide of the loss of ambition and social capital losses. As such, the net effect of extrinsic career success would be reduced, as seen in the Study 3 findings.

However, a central assumption of COR theory is that resources protect against resource loss (Hobfoll, Halbesleben, Neveu, & Westman, 2018). The availability of these resources enables people to better handle challenges and hurdles in career development and to attain success (Ng & Feldman, 2014; Spurk et al., 2019). Further, the theoretical explanation for the attainment of career success based on COR theory is that people develop resource management behaviours and attitudes to optimise the attainment of career success (Ferris, Witt, & Hochwarter, 2001; Spurk et al., 2019; Sullivan & Baruch, 2009; Wayne et al., 1999). Applied to the research model, the predominant interpretation of COR theory within a human/social capital and career success context is that the acquisition of resources, such as ambition, human capital, social capital, luck events, and extrinsic career success, would enhance the development of more resources for an anticipated positive career trajectory (Ferris et al., 2001; Sullivan & Baruch, 2009; Wayne et al., 1999). Hence, drawing on existing literature and evidence, the primary interpretation of the second tenet of COR theory was employed.

Career satisfaction. Another factor to consider in regard to nonsignificant findings in Study 3 is the consistency of nonsignificant findings involving intrinsic career success (career satisfaction) in the tested mediation, moderation, and moderated mediation models. Career satisfaction was consistently found to be insignificant in the present study's tested models.

Judge and Kammeyer-Mueller's (2012) seminal work on ambition showed that ambition was positively related to educational attainment, occupation prestige, and income, but did not examine the relationship between ambition and career satisfaction. In not doing

so, their study omitted the exploration of the role that ambition has when examining intrinsic career success (career satisfaction). Instead, it examined the outcomes of ambition on life satisfaction more generally and found that individuals who were more ambitious had higher levels of attainment in both educational and work domains and, in turn, reported higher levels of life satisfaction (Judge & Kammeyer-Mueller, 2012). In neglecting to include career satisfaction however, Judge & Kammeyer-Mueller's (2012) study does not distinguish between ambition's impact on career specific satisfaction and more general life satisfaction, thus leaving a gap in our understanding. Perhaps a justification for this omission lies within goal setting research. Such research suggests that, although the process of setting high expectations for oneself produces initial dissatisfaction (Mento, Locke, & Klein, 1992), the subsequent success produced by goals leads to setting increasingly higher goals (Locke, Cartledge, & Knerr, 1970) which ultimately leads to higher satisfaction. Within this context, perhaps ambition has only a mild net effect on career satisfaction because it encourages high goal setting and, subsequently, initial dissatisfaction. Another explanation resides within the premise that the educational and occupational achievements produced by ambition may make individuals compare themselves predominately to others within their same group of achievement, thus nullifying the satisfying effects these attainments might otherwise produce (Judge & Kammeyer-Mueller, 2012).

It is also important to consider that intrinsic career success (career satisfaction) may not be well suited as a career success outcome of ambition and human/social capital on its own. Intrinsic career success may be conceivably better positioned when combined into a greater and multidimensional measure of career success because it may mitigate the attributional influence of career satisfaction when examined individually. As such, perhaps the findings of a study with the outcome variable of career satisfaction would become significant if amalgamated into an overall career success measure that accounts for both

extrinsic and intrinsic career dimensions collectively. Grimland et al. (2012) measured intrinsic career success by both career satisfaction and professional vitality. As the intrinsic measure of career success in this thesis relied solely on career satisfaction, perhaps incorporating another measure of intrinsic career success, like professional vitality, would have resulted in a significant relationship between social capital and career satisfaction.

Some career success scholars argue that objective indicators (e.g., salary, promotion) are conceptually distinct from subjective indicators (e.g., career satisfaction; Greenhaus et al., 1990; Judge et al., 1995). As intrinsic and extrinsic career successes are considered different constructs, there are different associations involving them. For example, according to Spurk et al. (2019), the correlations between objective career success and subjective career success reported in meta-analytical reviews are small to moderate, ranging from .22 to .30 (Ng et al., 2005), suggesting their differences are noteworthy. Further, the literature is clear about objective career success and subjective career success representing nomologically different facets of career success (e.g., Abele & Spurk, 2009; Arthur et al., 2005; Gunz & Heslin, 2005). The systematic review of career success by Spurk et al. (2019) proposed that, to obtain a more comprehensive differentiated understanding of objective career success (salary, occupational prestige) and subjective career success (career satisfaction), we must understand not only the underlying (and potentially different) theoretical assumptions about their antecedents but also their outcomes, as well as providing suggestions for future research around both short- and long-term outcomes of career success—in particular, longitudinal studies.

The present thesis examined career satisfaction through the lens of Hobfoll's (2001) COR theory. Perhaps applying other theoretical foundations (such as boundaryless career theory) when considering career satisfaction would have been more appropriate, as it remains unclear what theories may apply to both success types equally (Arthur et al., 2005; Spurk et

al., 2019). However, despite the discussion around the conceptual dimensions of extrinsic and intrinsic career success, several recent articles have stated that many people still aspire to the hallmarks of the objectively successful, secure organisational career, and that this type of career might still be highly predictive of subjective career success (e.g., Dries & Verbruggen, 2012; Rodrigues & Guest, 2010).

Social capital. In considering social capital (the “who you know”), this construct can be measured and quantified in a number of ways. The present study anchored the measurement of social capital, and consistent with the study by Siebert et al. (2001), in Lin’s (1981) social resources theory that examines the content of a network and focuses on the nature of the resources embedded within it. However, the present study also did not quantify social capital through the social network structure that references weak tie theory, as used by Seibert et al. (2001) in conjunction with social resources theory. Granovetter’s (1973) weak tie theory focuses on the strength of the social tie used by a person in the process of finding a job. However, the present study was not designed to assess the strength of each social tie relationship (and subsequently the strength of influence that tie may have), nor was the social capital measure designed to relate the number of weak ties (a structural property of an ego’s network) to the number of valuable social contacts in an ego’s network (Seibert et al., 2001). Perhaps including the weak tie theory into the measurement of social capital in Study 3 would have created a clearer picture of the respondent’s social capital and, consequently, more significantly impacted the effects of the relationship between ambition and career satisfaction as mediated by social capital.

Sample demographics. Another explanation for the current study’s nonsignificant findings is the demographic of the sample. As mentioned in the literature review, Hart et al. (1971) studied the career histories of 60 men and found that the vocational histories of skilled and semiskilled workers were quite often influenced by chance encounters (Bright, Pryor, &

Harpham, 2005). However, for the professional workers, chance had much less influence because they relied on planning and preparation (Bright, Pryor, & Harpham, 2005). Similarly, Salomone and Slaney (1981), in a study of 917 nonprofessional workers, found that chance events were perceived to have an impact on the workers' vocational decisions, thus further substantiating chance and luck's relevance within the non-professional worker demographic. Perhaps this discrepancy in the attribution of chance and luck between professional and non-professional workers highlights a potential explanation for the findings in the present study not being significant due to a large proportion of professional workers in the sample. As 70% of the study respondents were professional or office (clerical) workers, and only 30% of the sample were non-professional workers, it is important to consider that the demographic of the sample was disproportionately from a professional background that has been shown to less readily acknowledge chance events in their professional lives. As such, it is feasible that this sample provided a disproportionate number of professional workers and, based upon the evidence provided by Bright, Pryor, and Harpham (2005) regarding chance events, weakened the role that luck played in the research model.

Practical Implications

In considering how the present research contributes to practice, the findings presented provide a greater understanding of what contributes to career success and how to obtain it. It also identifies the type of individuals that are likely to obtain extrinsic career success, as well as the successes that contributed to their ultimate career achievements, like human capital and social capital. The following section outlines the key practical implications of this thesis.

Study 1 of this thesis contributes a validated measure for ambition. With the recognition that ambition is meaningful within a careers setting, this validated scale has the potential to be added to psychometric tests during the hiring process. As such, measuring

ambition can be integrated into the hiring process through psychometric analysis and contribute a predictor for career success and successful hiring practices.

Study 2 of this thesis contributed a newly developed and content validated index of objective luck events. This index can be applied practically amongst the practices of career counsellors and career coaches. With this index, career counsellors can help their clients identify career luck events that have or have not occurred in their professional lives. If a large number of luck events have occurred for a client, career counsellors can identify this and focus on maintaining and developing their client's levels of ambition over the course of their career journeys. Another practical implication of this study is for HR departments to survey their employees using Study 1's ambition scale and Study 2's index of objective luck events to identify ambitious employees who have been lucky and develop programs to encourage ambition and prevent career flatlining.

The findings of this study are particularly relevant to hiring managers, recruiters, and human resource professionals. This thesis provides evidence that generalised ambition is an antecedent to human capital, social capital, and career success. In particular, the findings of this study highlight the importance of ambition as a broader construct than the more specific career ambition. As such, it becomes relevant to assess the levels of ambition that future candidates may have. For example, a person with a high level of ambition will likely develop more social capital which, while valuable within a careers context, also exists more broadly in one's life. If a candidate has high ambition, it is reasonable to believe that he/she will also develop strong social capital that can impact both internal and external stakeholders. This is a valuable asset to an organisation.

Further, the findings of Study 3 substantiate the importance of human capital as a signalling device to career professionals and organisations. According to signalling theory, human capital is a signalling device (Singer & Bruhns, 1991; Strober, 1990) because a high

level of human capital is a short-hand signal to organisations that job applicants deserve to be hired due to their accumulated job-relevant knowledge. As such, Study 3's findings support signalling theory by providing further evidence that human capital signals to organisations that potential employees have personal attributes desired by organisations, and thus also supports the practical implication that organisations are willing to pay premium wages and provide extra resources to hire and retain employees with large human capital investments (Ceci, 1991; Howard & Pike, 1986; Swenson-Lepper, 2005). Practically thus, the findings in Study 3 of this thesis further emphasise the value of human capital investments to both the individual and the organisation. As such, the importance of career development strategies and hiring practices centred around human capital achievements can be further validated.

Another practical implication of the study is the validation and reiteration of the importance of social capital in the career success discussion. As displayed in Study 3, social capital does impact extrinsic career success. Knowing this can help networking organisations (such as "Women in Business" or Chamber of Commerce groups) substantiate their value proposition to their members, and potentially grow their memberships. Another potential impact of this finding is that professional development coaches or networking organisations can use this research to develop programs to empower more introverted or less socially engaged individuals to obtain social capital through skill development workshops or mock networking events.

According to a new report of the Sutton Trust University Aspirations (2018) poll in the UK, the prospect of going on to higher education has become less desirable for many young people (Sutton Trust, 2019). More specifically, this poll questioned more than 2,600 11 to 16-year-olds in England and Wales and around one in seven (14%) said they were unlikely to go on to higher education, compared with 11% last year and eight percent five years ago—the lowest level since 2009 (Sutton Trust, 2019). Barriers for pursuing a

university degree include financial implications and not thinking they would need a degree for the jobs they were considering (Sutton Trust, 2019). Consequently, the value proposition for tertiary education worldwide has never been more important in that it is pertinent that upcoming high school graduates believe that the cost of obtaining a higher education is worth the career outcomes the degree will provide. As such, Study 3's findings statistically tie the positive impact of human capital to extrinsic career success, thus providing evidence for the value of a tertiary-degree within the context of income and occupational prestige.

It is also practically relevant to acknowledge the role that the non-agentic plays within a careers context. Interestingly, and in contrast to expectation, the non-agentic can influence existing patterns, but may do so in a negative way (e.g. reducing the intensity of the relationship between ambition and career outcomes via social capital when luck is accounted for). As such, the study findings can inform employees that, while their agentic career efforts may be neutralised when they experience a high occurrence of luck events, luck events cannot be relied upon to achieve career success. In doing so, career counsellors can increase awareness around the impact that luck events can have on the overall trajectory of one's career.

Career counsellors and professional development coaches can also benefit from the primarily nonsignificant findings of this study having provided evidence that success is largely powered by an individual's personality characteristics and self-driven accomplishments. Vocational and career psychologies aim to promote positive management and healthy growth in the vocational aspects of individuals' lives by promoting the value of human potential in making positive changes and implementing constructive actions (Chen, 2006). Based upon Bandura's (2001) social cognitive theory, an essential element in this psychological process is the construct of human agency (Chen, 2006). The notion of human agency in a life-career context is explained by Cochran and Laub (1994) who suggest that

human agency is a combination of human intention and action that results in making things happen (Chen, 2006). Following this logic, the present study findings are well aligned with the concept of human agency impacting a life-career trajectory. For example, if an individual has ambition and works to obtain human capital and social capital, they can anticipate some level of extrinsic career success in the form of income or occupational prestige. This knowledge empowers individuals to achieve career success because they have ambition and are willing to pursue it, thus encouraging an individual to continue to strive for their educational or career accomplishments. The findings of this thesis can also provide career counsellors with the awareness that, whilst luck alone does not intensify the career success trajectory, it can substitute for ambition. However, as one cannot predict luck, it reinforces that career counsellors are best served to focus on their client's ambition and/or other agentic factors for career development. As a result, the findings from this study can reinforce vocational and career psychology professionals' efforts to convey that human potential agentially drives career outcomes. The findings of Study 3 can further substantiate the professional development coaching profession by providing evidence that "getting lucky" may not be as important as once thought, thus further corroborating the importance of agentic factors in career success trajectories (Chen, 2006). As such, the importance of an individual working together with a professional development coach to develop agentic factors to benefit their career is thus reinforced.

Limitations

Despite the best efforts to develop a sound study design, no study is free of limitations. First, CMV may arise when there is a single source of data for the survey study (Podsakoff et al., 2012; Spector, 2006). As stated by Podsakoff et al. (2012), single source data can be susceptible to CMV, which occurs when the method of data collection systematically inflates the relationships under investigation. Hence, the concern with CMV is

that it can lead to data being misinterpreted. However, despite this, it is feasible that problems relating to CMV may not be as significant as once thought (Lindell & Whitney, 2001), as Spector (2006) argues that the assumption that CMV is automatically present in studies using a single method is an oversimplification and distortion of the effect. Despite this perspective, the present study endeavoured to avoid the misinterpretation of data caused by CMV by implementing a time-lagged design. As a further precaution, a Harman's single factor test was used to further assess the degree of CMV.

Another limitation lies within the design of Study 3. The present study followed Podsakoff et al.'s (2003) recommendations to combat CMV by designing a time-lagged study. According to Podsakoff et al. (2003), a temporal separation is achieved by introducing a time lag between the measurement of the predictor and criterion variables, as the separation allows previously recalled information to leave short-term memory. As such, creating a temporal, proximal, or psychological separation should reduce biases in the response process by making prior responses less available, or relevant (Podsakoff et al., 2003). Hence, this time separation diminishes the respondent's ability and motivation to use his or her prior responses to answer subsequent questions (Podsakoff, 2003). Despite the best efforts to achieve a study design free from CMV through a time-lagged design, a longitudinal study design would have been preferable that would have captured the survey data at over three time points. Despite this, the present study followed the guidance of Podsakoff et al. (2003) by embracing their recommendation to try to prevent method biases from influencing their results by implementing any of the procedural remedies that make sense within the context of their research. In the instance of the present thesis, the time-lagged study design was implemented to attempt to prevent method bias by applying the suggested procedural remedies provided by Podsakoff et al. (2003) to the study design of Study 3 of this thesis.

In an effort to minimise missing data, the questionnaire was kept as brief and concise as possible. Longer and more extensive measures of constructs could have been implemented, but the risk of respondent attrition was too high. Most notably, the social capital measurement was particularly lengthy and complex. In an effort to address this, some of the other measures of constructs were kept to their shorter versions. Despite these efforts, Study 3 experienced a high level of attrition between surveys: a 46.7% attrition rate (loss of 480 respondents at time 2). T-tests were conducted and, interestingly, respondents who were highly ambitious were more likely to complete both surveys. Further, as age of the respondent increased, the likelihood of completing the second survey decreased, perhaps as a result of a lack of comfortability with the online nature of the survey (younger respondents are “digital natives”). The concern of this high attrition is that some methodological articles have stated that subject attrition can lead to overestimated, spurious, or underestimated relationships among a study’s variables (Alexander et al., 1986; Goodman & Blum, 1996). However, the attrition rate of this study was not inconsistent with the attrition rates of other Qualtrics panel studies reporting data from multiple timepoints (Li et al., 2016). Further, the researcher contacted Qualtrics directly and requested their reported average attrition rate for multiple timepoint surveys. Qualtrics advised that, although they do not have official statistics and/or publication on attrition rates between diary studies, their rule of thumb is to expect at least 50% attrition between data collection waves when re-inviting respondents and when the period between studies is one week. The attrition rate increases (lower likelihood of re-participation) when the time gap between studies increases. As such, an attrition rate of 46.7% is within average expectations from a Qualtrics online panel study involving multiple timepoints of data collection and where the attrition concern as a limitation is adequately addressed.

In an effort to keep attributional bias from the respondents to a minimum, a measure of defined luck events was developed and integrated into Study 3. Despite the extensive literature review and detailed content validation, the measure may not capture every possible luck event that could have an impact on an individual's career success. The measure was kept succinct to ensure a solid response rate. However, perhaps an expanded measure of luck events may have provided a more impactful effect when luck was considered. Additionally, recall bias is an issue to be acknowledged. While the researcher endeavoured to avoid this bias by selecting significant luck events that are easily recalled, the risk of recall bias or interpretation of the event remains evident. This concern is also apparent in the social capital measure, as it asks for the respondent to reflect and identify people in their social network. As such, this measure, to a certain extent, also relies on recollection and risks recall bias. Despite this concern, the present study was guided by existing studies that have used or discuss the measurement of social capital (e.g., Beaudoin & Thorson, 2004, 2006; Moy et al., 1999; Putnam, 2000; Seibert, 2006; Seibert et al., 2001; Zhang & Chia, 2006).

A further limitation of the present thesis is a limited number of variables that were controlled for. The present study was guided by existing ambition, human capital, social capital, and career success literature in terms of control variables and, as such, controlled for age and gender (Coleman, Hassan, 2007; Judge & Kammemeyer-Mueller, 2012; Ng & Feldman, 2010; Seibert et al, 2001). Despite this, I acknowledge that including career ambition as a control in my model would enhance our understanding and implications of the thesis findings. As I was attempting to demonstrate that a previously unstudied variable (e.g. ambition) has an impact on an outcome, it would have been useful to test this against variables already known to have an impact, like career ambition. If included, it would have shed more specific light on the impact ambition has on career success above and beyond the more specific career ambition. This would be an area of opportunity for expansion in future

research. However, due to the concerns of participant fatigue and attrition, only those variables deemed most theoretically meaningful were included.”

A final limitation of the study lies within content panel experts of the content panel validation. The panel members engaged in the content validation were experts in the broader subject matter of the present study. As such, the panel consisted of experts in organisational behaviour, social capital, career success, sociology, and psychology. As luck within a careers setting is somewhat under researched, sourcing true “luck experts” proved challenging. As the content panel, though experts more generally, were not experts on luck, it is plausible that a more extensive content validation of the luck events with defined luck experts could prove useful. However, due to accessibility and the appropriateness of the panel experts within the broader scope of the study, the existing content panel was used and interpreted.

Strengths of the Thesis

Despite the preceding discussion of limitations, the present thesis presents a number of strengths. First, Study 1 validated a new ambition scale that can be used in future social sciences research (Duckworth et al., 2007). Further, the present study has made the case for the inclusion of generalised ambition in future careers research. Second, despite the existence of some attributional bias, Study 2 provided a first step in creating a quantification of objective luck events, and as such, a first step in the right direction for understanding objective and resource-supplying luck events to be used in future research. Most importantly, Study 3 has highlighted the importance of including the non-agentic in the discussion of career success (Hafer & Gresham, 2008; Pritchard, 2017). Further, the present thesis has highlighted that luck events can impact career success, albeit in a different direction than anticipated.

Future Research

Theoretically, the findings of this thesis indicate that it would be valuable to investigate more comprehensively the integration of Hobfoll's (2001) COR theory to enhance our understanding of the manner in which luck interacts with career success. While the subject of luck is gaining further attention and traction within the careers literature, the majority of research exists around subjective luck and whether an individual interprets an event as luck (Barrett, 2006; Feather & Simon, 1972; Pritchard, 2014). However, the present study would encourage future research to continue to build upon the results of the negative impact that luck has on the intensity of the relationships between ambition and social capital, the intensity of the relationship between human capital and career success, and the intensity of the mediated relationship between ambition and career success via social capital. Thus, further embracing and integrating the concept of objective luck events into future careers research would be valuable. More specifically, it would be meaningful to understand more extensively how ambition and luck interact within other constructs, such as leadership or intention to leave.

As stated earlier, the development of a more replicable, concise, and well captured measure of social capital would be useful for future scholars. Although the current measures are adequate, they are extensive, difficult to implement, and lack the ability to measure social capital without the confines of attribution and recall bias. Methodologically, future investigations should aspire to collect longitudinal data with a further spread. Luck events can occur at any point of the career journey and capturing their occurrence in a longitudinal fashion would be ideal. Further, longitudinal studies would be useful, as both social capital and luck are constructs that also evolve and change in size and quality over the course of an adult lifetime.

Further exploration on the negative impact that luck can have on career outcomes would be both insightful and productive. As this thesis endeavoured to ascertain the positive

side of luck events, the negative direction of moderation results indicate that it is, in fact, important to consider the negative by-products and results of luck. Similarly, the present thesis has considered the presence of ambition from a positive perspective. It would thus be interesting to consider the dark side of ambition and the manner in which it can negatively impact life and career outcomes.

Lastly, future research to better identify the role that luck plays within the social sciences is recommended. More specifically, it would be particularly interesting to examine how luck influences styles of leadership, organisational performance, and organisational culture. Further, it would be impactful to consider other theoretical mediators that luck may interact with, such as political skill, mentoring, or organisational sponsorship.

Chapter Six: Conclusion

To date, there has been much work examining individual and organisational antecedents of career success, such as human capital, social capital, motivational variables, and demographic descriptors (Judge & Bretz Jr, 1994; Kammeyer-Mueller & Judge, 2008; Ng & Feldman, 2010a; Seibert et al., 1999). Amongst these individual antecedents, generalised ambition has been ignored in lieu of career centric constructs like career ambition and career aspiration. The present study validated and incorporated ambition into the greater career success discussion.

Historically, the existing approaches to career success have been grounded in the belief that career success occurs as a result of control and planning (Judge & Bretz Jr, 1994; Kammeyer-Mueller & Judge, 2008; Ng & Feldman, 2010a; Seibert et al., 1999). However, despite career success receiving substantial attention among researchers and practitioners, key gaps in our understanding remain, particularly in relation to the non-agentic, like luck (Hafer & Gresham, 2008; Pritchard, 2017). Very few studies have examined the role of ambition and/or luck within a careers context (Judge & Kammeyer-Mueller, 2012). As such, the intention of the present research was to broaden the explanatory scope of career success by examining whether luck impacts the relationship between ambition and career success, as mediated through human and social capitals. As luck has previously only been discussed in an attributional sense, Study 2 of the thesis has created and content validated a measure of objective luck events that were used in Study 3 and may be utilised in future social sciences research (Ma, 2002; Pritchard, 2017).

The present thesis has applied Hobfoll's (2001) COR theory and systematically examined the combined interactive effects of luck on the relationship between ambition and career success, as explained by human capital and social capital. The present study findings partially support the conceptual model by identifying the integral role that ambition plays in

extrinsic career success. Further, this thesis provides a more extensive understanding of human capital and social capital as mediating forces within extrinsic career success. Lastly, the present thesis discovered and explored the neutralising impact that luck has on the intensity of the relationships between ambition and social capital, human capital and career success, and the mediated relationship of ambition and extrinsic career success via social capital.

In today's world of increasing competition and career achievement, the desire to prescribe a recipe for career success is growing in urgency for and demand from both individuals hoping to map out a path of success, and organisations who seek to understand which prospective employees will enable them to achieve their goals. Under such competitive workplace conditions, our understanding of the scope of the agentic and non-agentic becomes increasingly pertinent for present and future individuals, researchers, and practitioners. The present thesis endeavoured to begin the discussion of the role of the non-agentic within the context of career success and provide initial findings for a compelling acknowledgement of uncontrollable influencers that operate within the existing agentic career success trajectory. While the present thesis did unveil some indications of the role that luck plays in the translation of ambition and career success, the discovery of how and when luck is impactful remains fairly elusive and requires future theorising and research. Upon reflection of the significant and nonsignificant findings of this thesis, perhaps it is, in fact, Ma's (2002, pg. 525) initial question that still remains relevant: "what's luck got to do with it?".

References

- Abele, A. E., Hagmaier, T., & Spurk, D. (2016). Does career success make you happy? The mediating role of multiple subjective success evaluations. *Journal of Happiness Studies*, 17(4), 1615–1633.
- Abele, A. E., & Spurk, D. (2009). The longitudinal impact of self-efficacy and career goals on objective and subjective career success. *Journal of Vocational Behavior*, 74(1), 53–62.
- Abramson, L. Y., Seligman, M. E., & Teasdale, J. D. (1978). Learned helplessness in humans: Critique and reformulation. *Journal of Abnormal Psychology*, 87(1), 49.
- Acar, E. (2011). Effects of social capital on academic success: A narrative synthesis. *Educational Research and Reviews*, 6(6), 456–461.
- Adler, P. S., & Kwon, S. W. (2002). Social capital: Prospects for a new concept. *Academy of Management Review*, 27(1), 17–40.
- Agarwal, N. C. (1981). Determinants of executive compensation. *Industrial Relations: A Journal of Economy and Society*, 20(1), 36–45.
- Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*. New York, NY: SAGE.
- Alexander, R. A., Barrett, G. V., Alliger, G. M., & Carson, K. P. (1986). Towards a general model of non-random sampling and the impact on population correlation: Generalizations of Berkson's Fallacy and restriction of range. *British Journal of Mathematical and Statistical Psychology*, 39(1), 90–105.
- Allport, G. W. (1947). Scientific models and human morals. *Psychological Review*, 54(4), 182.

- Ambition. (n.d.). In Oxford Dictionary. Retrieved from <https://en.oxforddictionaries.com/definition/ambition>
- André, N. (2006). Good fortune, luck, opportunity and their lack: How do agents perceive them? *Personality and Individual Differences*, 40(7), 1461–1472.
- Arrow, K. (1973). The theory of discrimination. *Discrimination in Labor Markets*, 3(10), 3–33.
- Arthur, M. B., Claman, P. H., & DeFillippi, R. J. (1995). Intelligent enterprise, intelligent careers. *Academy of Management Perspectives*, 9(4), 7–20.
- Arthur, M. B., Khapova, S. N., & Wilderom, C. P. (2005). Career success in a boundaryless career world. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 26(2), 177–202.
- Ashby, J. S., & Schoon, I. (2010). Career success: The role of teenage career aspirations, ambition value and gender in predicting adult social status and earnings. *Journal of Vocational Behavior*, 77(3), 350–360.
- Ashforth, B. E., & Fugate, M. (2006). Attributional style in work settings: Development of a measure. *Journal of Leadership & Organizational Studies*, 12(3), 12–29.
- Australian Bureau of Statistics [ABS]. (2013, June). *ANZSCO—Australian and New Zealand Standard Classification of Occupations* (Catalogue no. 1220.0). Retrieved from <https://www.abs.gov.au/ANZSCO>
- Australian Bureau of Statistics [ABS]. (2018, September). *Gender Indicators, Australia* (Catalogue no. 4125.0). Retrieved from <https://www.abs.gov.au/ausstats/abs@.nsf/mf/4125.0>

- Babin, B. J., & Zikmund, W. G. (2015). *Exploring marketing research*. Boston, MA: Cengage Learning.
- Bagozzi, R. P. (2011). Measurement and meaning in information systems and organizational research: Methodological and philosophical foundations. *MIS Quarterly*, 25(2), 261–292.
- Bandura, A. (1982). The psychology of chance encounters and life paths. *American Psychologist*, 37(7), 747.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: W. H. Freeman.
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52(1), 1–26.
- Barclay, K. J. (2015). Birth order and educational attainment: Evidence from fully adopted sibling groups. *Intelligence*, 48, 109–122.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173.
- Barrett, G. V. (1972). Research models of the future for industrial and organizational psychology. *Personnel Psychology*, 25(1), 1–17.
- Barrett, W. (2006). Luck and decision. *Journal of Applied Philosophy*, 23(1), 73–87.
- Bartlett, M. S. (1954). A note on the multiplying factors for various χ^2 approximations. *Journal of the Royal Statistical Society. Series B (Methodological)*, 296–298.
- Bates, J. (1979). Extrinsic reward and intrinsic motivation: A review with implications for the classroom. *Review of Educational Research*, 49(4), 557–576.

- Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Personality processes and individual differences. *Journal of Personality and Social Psychology*, 74(5), 1252–1265.
- Beaudoin, C. E. (2007). News, social capital and health in the context of Katrina. *Journal of Health Care for the Poor and Underserved*, 18(2), 418–430.
- Beaudoin, C. E., & Thorson, E. (2004). Social capital in rural and urban communities: Testing differences in media effects and models. *Journalism & Mass Communication Quarterly*, 81(2), 378–399.
- Beaudoin, C. E., & Thorson, E. (2006). The social capital of Blacks and Whites: Differing effects of the mass media in the United States. *Human Communication Research*, 32(2), 157–177.
- Becker, G. S. (1962). Investment in human capital: A theoretical analysis. *Journal of Political Economy*, 70(5, Part 2), 9–49.
- Becker, G. S. (1964). *Human capital: A theoretical and empirical analysis, with special reference to education*. New York, NY: Columbia University Press.
- Becker, G. S. (1975). Front matter, human capital: A theoretical and empirical analysis, with special reference to education. In *Human capital: A Theoretical and Empirical Analysis, with Special Reference to Education* (2nd ed., p. -22 -0). Cambridge, MA: National Bureau of Economic Research.
- Becker, G. S., & Tomes, N. (1986). Human capital and the rise and fall of families. *Journal of Labor Economics*, 4(3, Part 2), S1–S39.
- Beggs, J. J., & Hurlbert, J. S. (1997). The social context of men's and women's job search ties: Membership in voluntary organizations, social resources, and job search outcomes. *Sociological Perspectives*, 40(4), 601–622.

- Bentler, P. M., & Chou, C. P. (1987). Practical issues in structural modeling. *Sociological Methods & Research*, 16(1), 78-117.
- Bergh, D. D., & Gibbons, P. (2011). The stock market reaction to the hiring of management consultants: A signalling theory approach. *Journal of Management Studies*, 48(3), 544–567.
- Bentler, P. M. (1992). On the fit of models to covariances and methodology to the Bulletin. *Psychological Bulletin*, 112(3), 400.
- Bentler, P. M. (2007). On tests and indices for evaluating structural models. *Personality and Individual Differences*, 42(5), 825–829.
- Betsworth, D. G., & Hansen, J. I. C. (1996). The categorization of serendipitous career development events. *Journal of Career Assessment*, 4(1), 91–98.
- Bjørnebekk, G., Diseth, Å., & Ulriksen, R. (2013). Achievement motives, self-efficacy, achievement goals, and academic achievement at multiple stages of education: A longitudinal analysis. *Psychological Reports*, 112(3), 771–787.
- Black, S. E., Devereux, P. J., & Salvanes, K. G. (2005). Why the apple doesn't fall far: Understanding intergenerational transmission of human capital. *American Economic Review*, 95(1), 437–449.
- Blake, J. (1981). Family size and the quality of children. *Demography*, 18(4), 421–442.
- Block, J. (2010). The five-factor framing of personality and beyond: Some ruminations. *Psychological Inquiry*, 21(1), 2–25.
- Boehm, J. K., & Lyubomirsky, S. (2008). Does happiness promote career success? *Journal of Career Assessment*, 16(1), 101–116.

- Bollen, K. A. (1989). A new incremental fit index for general structural equation models. *Sociological Methods & Research*, 17(3), 303–316.
- Bollen, K. A., & Stine, R. (1990). Direct and indirect effects: Classical and bootstrap estimates of variability. *Sociological Methodology*, 20, 115–140.
- Boomsma, A. (1985). Nonconvergence, improper solutions, and starting values in LISREL maximum likelihood estimation. *Psychometrika*, 50(2), 229–242.
- Booth, A. L., & Kee, H. J. (2005, August). Birth order matters: The effect of family size and birth order. *Institute for the Study of Labor: IZA Discussion Paper Series*, No. 1713.
- Bourdieu, P. (1986) The forms of capital. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241–258). Westport, CT: Greenwood.
- Bozorgi, S. (2009). On the relationship between locus of control and the grade point average of the Iranian Azad University EFL students. *Online Submission*.
- Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual Review of Psychology*, 53(1), 371–399.
- Brass, D. J. (1984). Being in the right place: A structural analysis of individual influence in an organization. *Administrative Science Quarterly*, 29(4), 518–539.
- Brass, D. J. (1985). Men's and women's networks: A study of interaction patterns and influence in an organization. *Academy of Management journal*, 28(2), 327–343.
- Breaugh, J. A., & Colihan, J. P. (1994). Measuring facets of job ambiguity: Construct validity evidence. *Journal of Applied Psychology*, 79(2), 191.
- Brenenstuhl, D. C., & Badgett, T. F. (1977, March). Prediction of academic achievement in a simulation mode via personality constructs. In *Developments in Business Simulation and Experiential Learning: Proceedings of the Annual ABSEL conference* (Vol. 4).

- Brett, J. F., Brief, A. P., Burke, M. J., George, J. M., & Webster, J. (1990). Negative affectivity and the reporting of stressful life events. *Health Psychology, 9*(1), 57.
- Bretz Jr, R. D., & Judge, T. A. (1994). The role of human resource systems in job applicant decision processes. *Journal of Management, 20*(3), 531–551.
- Breznitz, S. (Ed.). (1983). *The denial of stress*. New York, NY: International Universities Press.
- Bright, J. E., & Burton, A. M. (1994). Past midnight: Semantic processing in an implicit learning task. *The Quarterly Journal of Experimental Psychology, 47*(1), 71–89.
- Bright, J. E., & Burton, A. M. (1998). Ringing the changes: Where abstraction occurs in implicit learning. *European Journal of Cognitive Psychology, 10*(2), 113–130.
- Bright, J. E., Pryor, R. G., Chan, E. W. M., & Rijanto, J. (2009). Chance events in career development: Influence, control and multiplicity. *Journal of Vocational Behavior, 75*(1), 14–25.
- Bright, J. E., Pryor, R. G., & Harpham, L. (2005). The role of chance events in career decision making. *Journal of Vocational Behavior, 66*(3), 561–576.
- Bright, J. E., Pryor, R. G., Wilkenfeld, S., & Earl, J. (2005). The role of social context and serendipitous events in career decision making. *International Journal for Educational and Vocational Guidance, 5*(1), 19–36.
- Brown, T. (2006). CFA with equality constraints, multiple groups, and mean structures. In D. A. Kenny (Ed.), *Confirmatory factor analysis for applied research* (pp. 236–319), New York, NY: The Guildford Press.
- Brutus, S., Gill, H., & Duniewicz, K. (2010). Self-reported limitations in industrial and organizational psychology. *Personnel Psychology, 63*(4), 907–936.

- Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data?. *Perspectives on Psychological Science*, 6(1), 3–5.
- Burris, R. W. (1976). Human learning. *Handbook of Industrial and Organizational Psychology*, 131–146.
- Burt, R. S. (1992). *Structural holes: The social structure of competition*. Cambridge, MA: Harvard University Press.
- Burt, R. S. (1997). The contingent value of social capital. *Administrative Science Quarterly*, 42(2), 339–365.
- Cable, D. M., & Murray, B. (1999). Tournaments versus sponsored mobility as determinants of job search success. *Academy of Management Journal*, 42(4), 439–449.
- Callegaro, M., Baker, R. P., Bethlehem, J., Göritz, A. S., Krosnick, J. A., & Lavrakas, P. J. (Eds.). (2014). *Online panel research: A data quality perspective*. Hoboken, NJ: John Wiley & Sons.
- Campbell, K. E., Marsden, P. V., & Hurlbert, J. S. (1986). Social resources and socioeconomic status. *Social Networks*, 8(1), 97–117.
- Campbell, K. E., & Rosenfeld, R. A. (1985). Job search and job mobility: Sex and race differences. *Research in the Sociology of Work*, 3(1985), 147–175.
- Cantor, N. (1990). From thought to behavior: “Having” and “doing” in the study of personality and cognition. *American Psychologist*, 45(6), 735.
- Cantor, N., Norem, J. K., Niedenthal, P. M., Langston, C. A., & Brower, A. M. (1987). Life tasks, self-concept ideals, and cognitive strategies in a life transition. *Journal of Personality and Social Psychology*, 53(6), 1178.

- Caplow, T. (1954). *The sociology of work*. Minneapolis, MN: University of Minnesota Press.
- Cappellen, T., & Janssens, M. (2005). Global managers' careers: Unlocked from the organizational context?. In *21st EGOS Colloquium 'Unlocking Organizations'*. Berlin, Germany: Freie Universität Berlin.
- Carmeli, A., Tishler, A., & Edmondson, A. C. (2012). CEO relational leadership and strategic decision quality in top management teams: The role of team trust and learning from failure. *Strategic Organization*, 10(1), 31–54.
- Carolan, B. V., & Wasserman, S. J. (2015). Does parenting style matter? Concerted cultivation, educational expectations, and the transmission of educational advantage. *Sociological Perspectives*, 58(2), 168–186.
- Carver, C. S. (1993). Coping with hurricane Andrew. In *15th International Conference of the Stress and Anxiety Research Society*, Madrid, Spain.
- Carver, C., & White, T. (1994). Behavioral inhibition, behavioral activation, and affective responses to impending reward and punishment: The BIS/BAS scales. *Journal of Personality and Social Psychology*, 67(2), 319–333.
- Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate behavioral research*, 1(2), 245–276.
- Ceci, S. J. (1991). How much does schooling influence general intelligence and its cognitive components? A reassessment of the evidence. *Developmental psychology*, 27(5), 703.
- Chandler, L. K., & Dahlquist, C. M. (2014). *Functional assessment: Strategies to prevent and remediate challenging behavior in school settings*. Pearson Higher Education.

- Chang, S. J., van Witteloostuijn, A., & Eden, L. (2010). From the editors: Common method variance in international business research. *Journal of International Business Studies*, 41(2), 178–184.
- Chen, C. (2006). CiteSpace II: Detecting and visualizing emerging trends and transient patterns in scientific literature. *Journal of the American Society for Information Science and Technology*, 57(3), 359–377.
- Chen, S., Westman, M., & Eden, D. (2009). Impact of enhanced resources on anticipatory stress and adjustment to new information technology: A field–experimental test of conservation of resources theory. *Journal of Occupational Health Psychology*, 14(3), 219.
- Choudhury, J. (2010). Performance impact of intellectual capital: A study of Indian IT sector. *International Journal of Business and Management*, 5(9), 72.
- Cochran, L., & Laub, J. (1994). *Becoming an agent: Patterns and dynamics for shaping your life*. Albany, NY: State University of New York Press.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Marwah, NJ: Lawrence Erlbaum Associates.
- Coleman, J. S. (1982). *The asymmetric society*. Syracuse, NY: Syracuse University Press.
- Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, S95–S120.
- Coleman, J. (1990). *Social capital. Foundations of social theory*. Cambridge, MA: The Belknap Press of Harvard University Press.
- Compte, O., & Postlewaite, A. (2004). Confidence-enhanced performance. *American Economic Review*, 94(5), 1536–1557.

- Comrey, A. L., & Lee, H. B. (1992). Interpretation and application of factor analytic results. In A. L. Comrey & H. B. Lee (Eds.), *A first course in factor analysis* (p. 2). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Conway, J. M., & Lance, C. E. (2010). What reviewers should expect from authors regarding common method bias in organizational research. *Journal of Business and Psychology*, 25(3), 325–334.
- Cook, J. D., Warr, P. B., Wall, T. D., Hepworth, S. J., & Cook, A. (1981). *The experience of work: A compendium and review of 249 measures and their use*. New York, NY: Academic Press.
- Costa, P. T., & McCrae, R. R. (1992a). Four ways five factors are basic. *Personality and Individual Differences*, 13(6), 653–665.
- Costa, P. T., & McCrae, R. R. (1992b). Normal personality assessment in clinical practice: The NEO Personality Inventory. *Psychological Assessment*, 4(1), 5.
- Courtright, S. H., Gardner, R. G., Smith, T. A., McCormick, B. W., & Colbert, A. E. (2016). My family made me do it: A cross-domain, self-regulatory perspective on antecedents to abusive supervision. *Academy of Management Journal*, 59(5), 1630–1652.
- Cowen, T. (Presenter). (2018, November 8). Eric Schmidt on the life-changing magic of systematizing, scaling, and saying “Thanks” (Ep. 53—Live) [Audio podcast]. In Mercatus Center, George Mason University (Producer), *Conversations with Tyler*. Retrieved from <https://medium.com/conversations-with-tyler/eric-schmidt-tyler-cowen-google-ec33aa3e6dae>
- Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological Bulletin*, 52(4), 281.

- Crosnoe, R. (2004). Social capital and the interplay of families and schools. *Journal of Marriage and Family*, 66(2), 267–280.
- Darke, P. R., & Freedman, J. L. (1997). The belief in good luck scale. *Journal of Research in Personality*, 31(4), 486–511.
- Davis–Kean, P. E. (2005). The influence of parent education and family income on child achievement: The indirect role of parental expectations and the home environment. *Journal of Family Psychology*, 19(2), 294.
- Dawson, J. F., & Richter, A. W. (2006). Probing three-way interactions in moderated multiple regression: Development and application of a slope difference test. *Journal of Applied Psychology*, 91(4), 917–926.
- DeCelles, K. A., DeRue, D. S., Margolis, J. D., & Ceranic, T. L. (2012). Does power corrupt or enable? When and why power facilitates self–interested behavior. *Journal of Applied Psychology*, 97(3), 681–689.
- de Haan, M. (2010). Birth order, family size and educational attainment. *Economics of Education Review*, 29(4), 576–588.
- de Janasz, S. C., & Forret, M. L. (2008). Learning the art of networking: A critical skill for enhancing social capital and career success. *Journal of Management Education*, 32(5), 629–650.
- Dennett, D. (1984). *Elbow room: The varieties of free will worth wanting*. Cambridge, MA: MIT Press.
- Dennett, D. C. (2003). The self as a responding—and responsible—artifact. *Annals of the New York Academy of Sciences*, 1001(1), 39–50.

- Denrell, J. C., Fang, C., & Liu, C. (2019). In search of behavioral opportunities from misattributions of luck. *Academy of Management Review*, *ja* (02/21/2019).
- Denrell, J. C., Fang, C., & Winter, S. G. (2003). The economics of strategic opportunity. *Strategic Management Journal*, *24*(10), 977–990.
- Desrochers, S., & Dahir, V. (2000). Ambition as a motivational basis of organizational and professional commitment: Preliminary analysis of a proposed career advancement ambition scale. *Perceptual and Motor Skills*, *91*(2), 563–570.
- de Volder, M. L., & Lens, W. (1982). Academic achievement and future time perspective as a cognitive–motivational concept. *Journal of Personality and Social Psychology*, *42*(3), 566.
- Dew, N. (2009). Serendipity in entrepreneurship. *Organization Studies*, *30*(7), 735–753.
- Diamantopoulos, A., & Winklhofer, H. M. (2001). Index construction with formative indicators: An alternative to scale development. *Journal of marketing research*, *38*(2), 269–277.
- Diestel, S., & Schmidt, K. H. (2012). Lagged mediator effects of self-control demands on psychological strain and absenteeism. *Journal of Occupational and Organizational Psychology*, *85*(4), 556–578.
- Doolan, K. (2009). ‘My dad studied here too’: Social inequalities and educational (dis)advantage in a Croatian higher education setting (Doctoral dissertation). University of Cambridge, Cambridge, England.
- Dowding, K. (2017, March 29). Social and political power. In *Oxford Research Encyclopedia of Politics*. Retrieved from <https://oxfordre.com/politics/view/10.1093/acrefore/9780190228637.001.0001/acrefore-9780190228637-e-198>

- Drake, C. (1965). The social and economic status of the Negro in the United States. *Daedalus*, 94(4), 771–814.
- Dreher, G. F., & Bretz, R. D. (1991). Cognitive ability and career attainment: Moderating effects of early career success. *Journal of Applied Psychology*, 76(3), 392.
- Dries, N., Pepermans, R., Hofmans, J., & Rypens, L. (2009). Development and validation of an objective intra-organizational career success measure for managers. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 30(4), 543–560.
- Dries, N., & Verbruggen, M. (2012). Fresh perspectives on the 'new' career. *Journal of Vocational Behavior*, 82(2), 269–270.
- Driskell, J. E., Hogan, J., Salas, E., & Hoskin, B. (1994). Cognitive and personality predictors of training performance. *Military Psychology*, 6(1), 31.
- Duckworth, A., & Gross, J. J. (2014). Self-control and grit: Related but separable determinants of success. *Current Directions in Psychological Science*, 23(5), 319–325.
- Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology*, 92(6), 1087.
- Dufur, M. J., Parcel, T. L., & McKune, B. A. (2008). Capital and context: Using social capital at home and at school to predict child social adjustment. *Journal of Health and Social Behavior*, 49(2), 146–161.
- Dworkin, R. (1981). What is equality? Part 2: Equality of resources. *Philosophy & Public Affairs*, 10(4), 283–345.

- Dworkin, R. (2002). *Sovereign virtue: The theory and practice of equality*. Cambridge, MA: Harvard University Press.
- Edwards, J. R., & Lambert, L. S. (2007). Methods for integrating moderation and mediation: A general analytical framework using moderated path analysis. *Psychological Methods*, 12(1), 1–22.
- El Baroudi, S., Fleisher, C., Khapova, S. N., & Richardson, J. (2017). Ambition at work and career satisfaction: The mediating role of taking charge behavior and the moderating role of pay. *Career Development International*, 22(1), 87–102.
- Elchardus, M., & Smits, W. (2008). The vanishing flexible: Ambition, self-realization and flexibility in the career perspectives of young Belgian adults. *Work, Employment and Society*, 22(2), 243–262.
- Elliott, G. C. (1989). Self-serving attributions in the face of reality: The effect of task outcome and potential causes on self–other attributions. *Human Relations*, 42(11), 1015–1032.
- Eng, S. (2009). *Social capital and academic achievement among children in Cambodia: A close look at family*. (Unpublished doctoral dissertation). Texas Tech University, Lubbock, TX.
- Eshelman, A. J., & Rottinghaus, P. J. (2015). Viewing adolescents' career futures through the lenses of socioeconomic status and social class. *The Career Development Quarterly*, 63(4), 320–332.
- Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological methods*, 4(3), 272.

- Fan, X., Thompson, B., & Wang, L. (1999). Effects of sample size, estimation methods, and model specification on structural equation modeling fit indexes. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 56–83.
- Feather, N. T., & Simon, J. G. (1972). Luck and the unexpected outcome: A field replication of laboratory findings. *Australian Journal of Psychology*, 24(1), 113–117.
- Feldman, D. C., & Ng, T. W. (2007). Careers: Mobility, embeddedness, and success. *Journal of Management*, 33(3), 350–377.
- Ferris, G. R., Davidson, S. L., & Perrewé, P. L. (2005). *Political skill at work: Impact of effectiveness, organizational Dynamics*. Palo Alto, CA: Davis-Black.
- Ferris, G. R., Treadway, D. C., Perrewé, P. L., Brouer, R. L., Douglas, C., & Lux, S. (2007). Political skill in organizations. *Journal of Management*, 33(3), 290–320.
- Ferris, G. R., Witt, L. A., & Hochwarter, W. A. (2001). Interaction of social skill and general mental ability on job performance and salary. *Journal of Applied Psychology*, 86(6), 1075.
- Findley, M., & Cooper, H. M. (1983). The relation between locus of control and achievement. *Journal of Personality and Social Psychology*, 44, 419–427.
- Fischhoff, B. (1976). The effect of temporal setting on likelihood estimates. *Organizational Behavior and Human Performance*, 15(2), 180–194.
- Flouri, E. (2006). Parental interest in children's education, children's self-esteem and locus of control, and later educational attainment: Twenty-six year follow-up of the 1970 British Birth Cohort. *British Journal of Educational Psychology*, 76(1), 41–55.
- Ford, J. K., MacCallum, R. C., & Tait, M. (1986). The application of exploratory factor analysis in applied psychology: A critical review and analysis. *Personnel Psychology*, 39(2), 291–314.

- Forret, M. L. (2006). The impact of social networks on the advancement of women and racial/ethnic minority groups. *Gender, Ethnicity, and Race in the Workplace*, 3, 149–166.
- Forret, M. L., & Dougherty, T. W. (2004). Networking behaviors and career outcomes: Differences for men and women?. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 25(3), 419–437.
- Forret, M. L., Turban, D. B., & Dougherty, T. W. (1997). Making the most of mentoring: How five firms managed the issues which arise. *Training & Management Development Methods*, 11(2), 9-17.
- Försterling, F., Preikschas, S., & Agthe, M. (2007). Ability, luck, and looks: An evolutionary look at achievement ascriptions and the sexual attribution bias. *Journal of Personality and Social Psychology*, 92(5), 775.
- Frederiksen, A., & Kato, T. (2017). Human capital and career success: Evidence from linked employer-employee data. *The Economic Journal*, 128(613), 1952–1982.
- Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science*, 18(3), 233–239.
- Fuller, C. M., Simmering, M. J., Atinc, G., Atinc, Y., & Babin, B. J. (2016). Common methods variance detection in business research. *Journal of Business Research*, 69(8), 3192–3198.
- Galvin, B. M., Randel, A. E., Collins, B. J., & Johnson, R. E. (2018). Changing the focus of locus (of control): A targeted review of the locus of control literature and agenda for future research. *Journal of Organizational Behavior*, 39(7), 820–833.
- Gao-Urhahn, X., Biemann, T., & Jaros, S. J. (2016). How affective commitment to the organization changes over time: A longitudinal analysis of the reciprocal relationships

- between affective organizational commitment and income. *Journal of Organizational Behavior*, 37(4), 515–536.
- Gardner, R. G., Harris, T. B., Li, N., Kirkman, B. L., & Mathieu, J. E. (2017). Understanding “it depends” in organizational research: A theory-based taxonomy, review, and future research agenda concerning interactive and quadratic relationships. *Organizational Research Methods*, 20(4), 610–638.
- Gibbons, R., & Waldman, M. (2004). Task-specific human capital. *American Economic Review*, 94(2), 203–207.
- Gifford, D. D., Briceño-Perriott, J., & Mianzo, F. (2006). Locus of control: Academic achievement and retention in a sample of university first-year students. *Journal of College Admission*, 191, 18–25.
- Glick, W. H., Miller, C. C., & Cardinal, L. B. (2008). Reality check on career success and weak paradigms: Chance still favors the hearty soul. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 29(6), 715–723.
- Goodman, J. S., & Blum, T. C. (1996). Assessing the non-random sampling effects of subject attrition in longitudinal research. *Journal of Management*, 22(4), 627–652.
- Gore, J., Holmes, K., Smith, M., Southgate, E., & Albright, J. (2015). Socioeconomic status and the career aspirations of Australian school students: Testing enduring assumptions. *The Australian Educational Researcher*, 42(2), 155–177.
- Gorsuch, R. L. (1990). Common factor analysis versus component analysis: Some well and little known facts. *Multivariate Behavioral Research*, 25(1), 33–39.

- Gould, S., & Penley, L. E. (1984). Career strategies and salary progression: A study of their relationships in a municipal bureaucracy. *Organizational Behavior and Human Performance*, 34(2), 244–265.
- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, 78(6), 1360–1380.
- Gray, M. P., & O'Brien, K. M. (2007). Advancing the assessment of women's career choices: The Career Aspiration Scale. *Journal of Career Assessment*, 15(3), 317–337.
- Greenhaus, J. H., Parasuraman, S., & Wormley, W. M. (1990). Effects of race on organizational experiences, job performance evaluations, and career outcomes. *Academy of Management Journal*, 33(1), 64–86.
- Grimland, S., Vigoda-Gadot, E., & Baruch, Y. (2012). Career attitudes and success of managers: The impact of chance event, protean, and traditional careers. *The International Journal of Human Resource Management*, 23(6), 1074–1094.
- Guadagnoli, E., & Velicer, W. F. (1988). Relation of sample size to the stability of component patterns. *Psychological Bulletin*, 103(2), 265–275.
- Guindon, M. H., & Hanna, F. J. (2002). Coincidence, happenstance, serendipity, fate, or the hand of God: Case studies in synchronicity. *The Career Development Quarterly*, 50(3), 195–208.
- Gunz, H. P., & Heslin, P. A. (2005). Reconceptualizing career success. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 26(2), 105–111.
- Haan, N. (2013). *Coping and defending: Processes of self-environment organization*. New York, NY: Academic Press.

- Hafer, J., & Gresham, G. G. (2008). Luck's role in business success: Why it's too important to leave to chance. *Journal of Behavioral & Applied Management*, 9(3), 295–315.
- Hair Jr, J. F., Anderson, R. E., Tatham, R. L., Babin, B., & Black, B. (2005). *Multivariate data analysis* (6th ed.). Upper Saddle River, NJ, Pearson Prentice Hall.
- Hair Jr, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate data analysis* (7th Rev. ed.). Essex, England: Pearson Education Limited.
- Halbesleben, J. R. (2006). Sources of social support and burnout: a meta-analytic test of the conservation of resources model. *Journal of Applied Psychology*, 91(5), 1134–1145.
- Halbesleben, J. R., Harvey, J., & Bolino, M. C. (2009). Too engaged? A conservation of resources view of the relationship between work engagement and work interference with family. *Journal of Applied Psychology*, 94(6), 1452–1465.
- Halbesleben, J. R., Neveu, J. P., Paustian-Underdahl, S. C., & Westman, M. (2014). Getting to the “COR” understanding the role of resources in conservation of resources theory. *Journal of Management*, 40(5), 1334–1364.
- Hall, D. T. (1976). *Careers in organizations*. Pacific Palisades, CA: Goodyear Publishing Company.
- Hall, D. T. (2004). The protean career: A quarter-century journey. *Journal of Vocational Behavior*, 65(1), 1–13.
- Hall, D. T., & Chandler, D. E. (2005). Psychological success: When the career is a calling. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 26(2), 155–176.
- Hanifan, L. J. (1916). The rural school community center. *The Annals of the American Academy of Political and Social Science*, 67(1), 130–138.

- Hansson, R. O., Hogan, R., Johnson, J. A., & Schroeder, D. (1983). Disentangling Type A behavior: The roles of ambition, insensitivity, and anxiety. *Journal of Research in Personality, 17*(2), 186–197.
- Harper, W. (1996). Knowledge and luck. *The Southern Journal of Philosophy, 34*(3), 273–283.
- Harris, C. M., Pattie, M. W., & McMahan, G. C. (2015). Advancement along a career path: The influence of human capital and performance. *Human Resource Management Journal, 25*(1), 102–115.
- Hart, D. H., Rayner, K., & Christensen, E. R. (1971). Planning, preparation, and chance in occupational entry. *Journal of Vocational Behavior, 1*(3), 279–285.
- Hassan, A. (2007). Human resource development and organizational values. *Journal of European Industrial Training, 31*(6), 435–448.
- Hauser, R. M., & Sewell, W. H. (1985). Birth order and educational attainment in full sibships. *American Educational Research Journal, 22*(1), 1–23.
- Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs, 76*(4), 408–420.
- Hayes, A. F. (2013). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. *Journal of Educational Measurement, 51*(3), 335–337.
- Hayes, A. F. (2015). An index and test of linear moderated mediation. *Multivariate Behavioral Research, 50*(1), 1–22.
- Haynie, D. L. (2001). Delinquent peers revisited: Does network structure matter?. *American Journal of Sociology, 106*(4), 1013–1057.

- Headey, B., Veenhoven, R., & Weari, A. (2005). Top-down versus bottom-up theories of subjective well-being. In A. Michalos (Ed.), *Citation Classics from Social Indicators Research* (pp. 401-420). Dordrecht, Netherlands: Springer.
- Henry, P. B. (2003). Capital-account liberalization, the cost of capital, and economic growth. *American Economic Review*, 93(2), 91-96.
- Henson, R. K. (2001). Understanding internal consistency reliability estimates: A conceptual primer on coefficient alpha. (Methods, plainly speaking). *Measurement and Evaluation in Counseling and Development*, 34(3), 177-190.
- Henson, R. K., & Roberts, J. K. (2006). Use of exploratory factor analysis in published research: Common errors and some comment on improved practice. *Educational and Psychological Measurement*, 66(3), 393-416.
- Heslin, P. A. (2003). Self- and other-referent criteria of career success. *Journal of Career Assessment*, 11(3), 262-286.
- Heslin, P. A., Vandewalle, D., & Latham, G. P. (2006). Keen to help? Managers' implicit person theories and their subsequent employee coaching. *Personnel Psychology*, 59(4), 871-902.
- Higgins, M. C. (2000). The more, the merrier? Multiple developmental relationships and work satisfaction. *Journal of Management Development*, 19(3/4), 277-296.
- Hinkin, T. R. (1995). A review of scale development practices in the study of organizations. *Journal of Management*, 21(5), 967-988.
- Hinkin, T. R. (1998). A brief tutorial on the development of measures for use in survey questionnaires. *Organizational Research Methods*, 1(1), 104-121.

- Hinkin, T. R., & Tracey, J. B. (1999). An analysis of variance approach to content validation. *Organizational Research Methods*, 2(2), 175–186.
- Hirschi, A., Nagy, N., Baumeler, F., Johnston, C. S., & Spurk, D. (2018). Assessing key predictors of career success: Development and validation of the Career Resources Questionnaire. *Journal of Career Assessment*, 26(2), 338–358.
- Ho, E. S. C. (2003). Students' self-esteem in an Asian educational system: Contribution of parental involvement and parental investment. *School Community Journal*, 13(1), 65–84.
- Hobfoll, S. E. (1989). Conservation of Resources: A critical review of evidence. *American Psychologist*, 44(9), 513–524.
- Hobfoll, S. E. (2001). The influence of culture, community, and the nested-self in the stress process: Advancing conservation of resources theory. *Applied Psychology: An International Review*, 50(3), 337–421.
- Hobfoll, S. E. (2011). Conservation of Resources Theory: Its implication for stress, health, and resilience. *The Oxford Handbook of Stress, Health, and Coping*, 127–147.
- Hobfoll, S. E., Halbesleben, J., Neveu, J. P., & Westman, M. (2018). Conservation of resources in the organizational context: The reality of resources and their consequences. *Annual Review of Organizational Psychology and Organizational Behavior*, 5, 103–128.
- Hochwarter, W. A., Witt, L. A., Treadway, D. C., & Ferris, G. R. (2006). The interaction of social skill and organizational support on job performance. *Journal of Applied Psychology*, 91(2), 482.
- Hogan, R., & Chamorro-Premuzic, T. (2015). *Personality and career success. Handbook of personality processes and individual differences*. Washington, DC: American Psychological Association.

- Hogan, J. & Holland, B. (2003). Using theory to evaluate personality and job-performance relations: A socioanalytic perspective. *Journal of Applied Psychology*, 88(1), 100–112.
- Hogan, R., & Schroeder, D. H. (1981). The ambiguities of achievement. *Sociological Spectrum*, 1, 35–45.
- Howard, A., & Bray, D. W. (1988). *Managerial lives in transition: Advancing age and changing times*. New York, NY: Guilford Press.
- Howard, J. A., & Pike, K. C. (1986). Ideological investment in cognitive processing: The influence of social statuses on attribution. *Social Psychology Quarterly*, 154-167.
- Hoyle, R. H. (1995). The structural equation modeling approach: Basic concepts and fundamental issues. In R. H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 1–15). Thousand Oaks, CA: SAGE Publications, Inc.
- Hu, L. T., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods*, 3(4), 424.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1–55.
- Hu, L. T., Bentler, P. M., & Kano, Y. (1992). Can test statistics in covariance structure analysis be trusted?. *Psychological Bulletin*, 112(2), 351–362.
- Huselid, M. A., Becker, B. E., & Beatty, R. W. (2005). *The workforce scorecard: Managing human capital to execute strategy*. Brighton, MA: Harvard Business Review Press.
- Huston, A. C., & Bentley, A. C. (2010). Human development in societal context. *Annual Review of Psychology*, 61, 411–437.

- Iellatchitch, A., Mayrhofer, W., & Meyer, M. (2003). Career fields: A small step towards a grand career theory?. *International Journal of Human Resource Management*, 14(5), 728–750.
- Ivcevic, Z., & Brackett, M. (2014). Predicting school success: Comparing conscientiousness, grit, and emotion regulation ability. *Journal of Research in Personality*, 52, 29–36.
- Jackson, D. L. (2001). Sample size and number of parameter estimates in maximum likelihood confirmatory factor analysis: A Monte Carlo investigation. *Structural Equation Modeling*, 8(2), 205–223.
- Jackson, D. L. (2007). The effect of the number of observations per parameter in misspecified confirmatory factor analytic models. *Structural Equation Modeling*, 14(1), 48–76.
- Jackson, D. L., Gillaspay Jr, J. A., & Purc-Stephenson, R. (2009). Reporting practices in confirmatory factor analysis: An overview and some recommendations. *Psychological Methods*, 14(1), 6–23.
- Jackson, D. N., Paunonen, S. V., Fraboni, M., & Goffin, R. D. (1996). A five-factor versus six-factor model of personality structure. *Personality and Individual Differences*, 20(1), 33–45.
- Jansen, P. G., & Vinkenburgh, C. J. (2006). Predicting management career success from assessment centre data: A longitudinal study. *Journal of Vocational Behavior*, 68(2), 253–266.
- Jaskolka, G., Beyer, J. M., & Trice, H. M. (1985). Measuring and predicting managerial success. *Journal of Vocational Behavior*, 26(2), 189–205.
- Johnson, M. K., Crosnoe, R., & Elder Jr, G. H. (2001). Students' attachment and academic engagement: The role of race and ethnicity. *Sociology of Education*, 74(4), 318–340.

- Jones, A. B., Sherman, R. A., & Hogan, R. T. (2017). Where is ambition in factor models of personality? *Personality and Individual Differences*, 106, 26–31.
- Judd, C. M., & Kenny, D. A. (1981). Process analysis: Estimating mediation in treatment evaluations. *Evaluation Review*, 5(5), 602–619.
- Judge, T. A., & Bretz Jr, R. D. (1994). Political influence behavior and career success. *Journal of Management*, 20(1), 43–65.
- Judge, T. A., Cable, D. M., Boudreau, J. W., & Bretz Jr, R. D. (1995). An empirical investigation of the predictors of executive career success. *Personnel Psychology*, 48(3), 485–519.
- Judge, T. A., & Kammeyer-Mueller, J. D. (2012). On the value of aiming high: The causes and consequences of ambition. *Journal of Applied Psychology*, 97(4), 758.
- Judge, T. A., Klinger, R. L., & Simon, L. S. (2010). Time is on my side: Time, general mental ability, human capital, and extrinsic career success. *Journal of Applied Psychology*, 95(1), 92.
- Judge, T. A., & Zapata, C. P. (2015). The person-situation debate revisited: Effect of situation strength and trait activation on the validity of the Big Five personality traits in predicting job performance. *Academy of Management Journal*, 58(4), 1149–1179.
- Kaiser, H. F. (1970). A second-generation little jiffy. *Psychometrika*, 35(4), 401–415.
- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31–36.
- Kalechstein, A. D., & Nowicki Jr, S. (1997). A meta-analytic examination of the relationship between control expectancies and academic achievement: An 11-year follow-up to Findley and Cooper. *Genetic, Social, and General Psychology Monographs*, 123(1), 27–57.

- Kammeyer-Mueller, J. D., & Judge, T. A. (2008). A quantitative review of mentoring research: Test of a model. *Journal of Vocational Behavior*, 72(3), 269–283.
- Kammeyer-Mueller, J. D., Judge, T. A., & Piccolo, R. F. (2008). Self-esteem and extrinsic career success: Test of a dynamic model. *Applied Psychology*, 57(2), 204–224.
- Kantarevic, J., & Mechoulam, S. (2006). Birth order, educational attainment, and earnings an investigation using the PSID. *Journal of Human Resources*, 41(4), 755–777.
- Kelley, H. H., & Michela, J. L. (1980). Attribution theory and research. *Annual Review of Psychology*, 31(1), 457–501.
- Keren, G. B., & Wagenaar, W. A. (1985). On the psychology of playing blackjack: Normative and descriptive considerations with implications for decision theory. *Journal of Experimental Psychology: General*, 114(2), 133.
- Keren, G., & Wagenaar, W. A. (1988). Chance and skill in gambling: A search for distinctive features. *Social Behaviour*, 3(3), 199–217.
- Kern, M. L., Friedman, H. S., Martin, L. R., Reynolds, C. A., & Luong, G. (2009). Conscientiousness, career success, and longevity: A lifespan analysis. *Annals of Behavioral Medicine*, 37(2), 154–163.
- Kiazad, K., Holtom, B. C., Hom, P. W., & Newman, A. (2015). Job embeddedness: A multifoci theoretical extension. *Journal of Applied Psychology*, 100(3), 641.
- Kikuchi, M., & Coleman, C. L. (2012). Explicating and measuring social relationships in social capital research. *Communication Theory*, 22(2), 187–203.
- Kim, D. H., & Schneider, B. (2005). Social capital in action: Alignment of parental support in adolescents' transition to postsecondary education. *Social Forces*, 84(2), 1181–1206.

- Kim, J., & Mueller, C. W. (1978). *Factor analysis: Statistical methods and practical issues* (SAGE university papers series. Quantitative applications in the social sciences; ser. no. 07–014). Beverly Hills, CA: SAGE Publications.
- Kline, R. B. (2011). *Methodology in the Social Sciences. Principles and practice of structural equation modeling* (3rd ed.). New York, NY: Guilford Press.
- Kline, R. B. (2015). *Principles and practice of structural equation modeling*. New York, NY: Guilford Publications.
- Kline, T. (2005). *Psychological testing: A practical approach to design and evaluation*. Thousand Oaks, CA: SAGE Publications, Inc.
- Korman, A. K., Wittig–Berman, U., & Lang, D. (1981). Career success and personal failure: Alienation in professionals and managers. *Academy of Management Journal*, 24(2), 342–360.
- Kraimer, M. L., Seibert, S. E., Wayne, S. J., Liden, R. C., & Bravo, J. (2011). Antecedents and outcomes of organizational support for development: The critical role of career opportunities. *Journal of Applied Psychology*, 96(3), 485.
- Kühnel, J., Sonnentag, S., & Bledow, R. (2012). Resources and time pressure as day-level antecedents of work engagement. *Journal of Occupational and Organizational Psychology*, 85(1), 181–198.
- Lance, C. E., Dawson, B., Birkelbach, D., & Hoffman, B. J. (2010). Method effects, measurement error, and substantive conclusions. *Organizational Research Methods*, 13(3), 435–455.
- Lazear, E. P. (2005, December). Leaders and entrepreneurs: Where they produce the most value. In *Allied Social Science Associations Annual General Meeting*, Philadelphia, PA.

- Lazear, E. P. (2012). Leadership: A personnel economics approach. *Labour Economics*, 19(1), 92–101.
- Lee, R. T., & Ashforth, B. E. (1996). A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology*, 81(2), 123.
- Lefcourt, H. M. (1976). Locus of control and the response to aversive events. *Canadian Psychological Review/Psychologie Canadienne*, 17(3), 202.
- Li, J. J., Lee, T. W., Mitchell, T. R., Hom, P. W., & Griffeth, R. W. (2016). The effects of proximal withdrawal states on job attitudes, job searching, intent to leave, and employee turnover. *Journal of Applied Psychology*, 101(10), 1436.
- Lin, N. (1999). Social networks and status attainment. *Annual Review of Sociology*, 25(1), 467–487.
- Lin, N. (2000). Inequality in social capital. *Contemporary Sociology*, 29(6), 785–795.
- Lin, N., Cook, K. S., & Burt, R. S. (Eds.). (2001). *Social capital: Theory and research*. Piscataway, NJ: Transaction Publishers.
- Lin, N., Ensel, W. M., & Vaughn, J. C. (1981). Social resources and strength of ties: Structural factors in occupational status attainment. *American Sociological Review*, 46(4), 393–405.
- Lin, N., Vaughn, J. C., & Ensel, W. M. (1981). Social resources and occupational status attainment. *Social Forces*, 59(4), 1163–1181.
- Lindberg, O., & Rantatalo, O. (2015). Competence in professional practice: A practice theory analysis of police and doctors. *Human Relations*, 68(4), 561–582.
- Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional research designs. *Journal of Applied Psychology*, 86(1), 114–121.

- Little, R. J. (1988). A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association*, 83(404), 1198–1202.
- Liu, J., Kwan, H. K., Fu, P. P., & Mao, Y. (2013). Ethical leadership and job performance in China: The roles of workplace friendships and traditionality. *Journal of Occupational and Organizational Psychology*, 86(4), 564–584.
- Liu, W. M., Ali, S. R., Soleck, G., Hopps, J., & Pickett Jr, T. (2004). Using social class in counseling psychology research. *Journal of Counseling Psychology*, 51(1), 3–18.
- Liu, Y., Prati, L. M., Perrewé, P. L., & Ferris, G. R. (2008). The relationship between emotional resources and emotional labor: An exploratory study. *Journal of Applied Social Psychology*, 38(10), 2410–2439.
- Locke, E. A., Cartledge, N., & Knerr, C. S. (1970). Studies of the relationship between satisfaction, goal-setting, and performance. *Organizational Behavior and Human Performance*, 5(2), 135–158.
- Lockwood, C. M., & MacKinnon, D. P. (1998, March). Bootstrapping the standard error of the mediated effect. In *Proceedings of the 23rd annual meeting of SAS Users Group International* (pp. 997–1002).
- Long, C. P., Bendersky, C., & Morrill, C. (2011). Fairness monitoring: Linking managerial controls and fairness judgments in organizations. *Academy of Management Journal*, 54(5), 1045–1068.
- Loury, G. (1977). A dynamic theory of racial income differences. *Women, Minorities, and Employment Discrimination*, 153, 86–153.
- Lubatkin, M. H., Simsek, Z., Ling, Y., & Veiga, J. F. (2006). Ambidexterity and performance in small- to medium-sized firms: The pivotal role of top management team behavioral integration. *Journal of Management*, 32(5), 646–672.

- Luthans, F., Hodgetts, R. M., & Rosenkrantz, S. A. (1988). Real managers. *The Academy of Management Review*, 13(4), 661–663.
- Ma, H. (2002). Competitive advantage: What's luck got to do with it? *Management Decision*, 40(6), 525–536.
- MacCallum, R. C., & Austin, J. T. (2000). Applications of structural equation modeling in psychological research. *Annual Review of Psychology*, 51(1), 201–226.
- MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological Methods*, 4(1), 84–99.
- MacKenzie, S. B., Podsakoff, P. M., & Jarvis, C. B. (2005). The problem of measurement model misspecification in behavioral and organizational research and some recommended solutions. *Journal of applied psychology*, 90(4), 710.
- MacKinnon, D. P., Cox, S., & Baraldi, A. N. (2012). Guidelines for the investigation of mediating variables in business research. *Journal of Business and Psychology*, 27(1), 1–14.
- MacKinnon, D. P., & Fairchild, A. J. (2009). Current directions in mediation analysis. *Current Directions in Psychological Science*, 18(1), 16–20.
- MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation analysis. *Annual Review of Psychology*, 58(1), 593–614.
- MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods*, 7(1), 83.

- MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research*, 39(1), 99–128.
- MacKinnon, D. W. (1962). The personality correlates of creativity: A study of American architects. In G. Nielson (Ed.), *Proceedings of the XIV International Congress of Applied Psychology. Vol. 2. Personality Research* (pp. 11–39). Oxford, England: Munksgaard.
- Magnus, K., Diener, E., Fujita, F., & Pavot, W. (1993). Extraversion and neuroticism as predictors of objective life events: a longitudinal analysis. *Journal of Personality and Social Psychology*, 65(5), 1046.
- Malhotra, N. K., Kim, S. S., & Patil, A. (2006). Common method variance in IS research: A comparison of alternative approaches and a reanalysis of past research. *Management Science*, 52(12), 1865–1883.
- Manzoni, A., Härkönen, J., & Mayer, K. U. (2014). Moving on? A growth-curve analysis of occupational attainment and career progression patterns in West Germany. *Social Forces*, 92(4), 1285–1312.
- Marsden, P. V. (1988). Homogeneity in confiding relations. *Social Networks*, 10(1), 57–76.
- Marsh, H. W., Balla, J. R., & McDonald, R. P. (1988). Goodness-of-fit indexes in confirmatory factor analysis: The effect of sample size. *Psychological Bulletin*, 103(3), 391–410.
- Marsh, H. W., Hau, K. T., & Wen, Z. (2004). Structural equation modeling: A modeling latent growth curves with incomplete data using different types of structural equation modeling and multilevel software. *Structural Equation Modeling*, 11(3), 452–483.
- Martineau, W. H. (1977). Informal social ties among urban Black Americans: Some new data and a review of the problem. *Journal of Black Studies*, 8(1), 83–104.

- Matsunaga, M. (2010). How to factor-analyze your data right: Do's, don'ts, and how-to's. *International Journal of Psychological Research*, 3(1), 97–110.
- Maxwell, J. P. (2000). Managing conflict at the county level: The use of Q methodology in dispute resolution and strategic planning. *Public Administration Quarterly*, 24(3), 338–354.
- McAdams, D. P. (1995). What do we know when we know a person? *Journal of Personality*, 63(3), 365–396.
- McClelland, D. C. (1961). *The achievement society*. Princeton, NJ: Von Nostrand.
- McCrae, R. R., & Costa Jr, P. T. (1999). A five-factor theory of personality. *Handbook of Personality: Theory and Research*, 2(1999), 139–153.
- McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its applications. *Journal of Personality*, 60(2), 175–215.
- McMillan, J., Jones, F. L., & Beavis, A. (2009). The AUSEI06: A new socioeconomic index for Australia. *Journal of Sociology*, 45(2), 123–149.
- McPherson, J. M., & Smith-Lovin, L. (1982). Women and weak ties: Differences by sex in the size of voluntary organizations. *American Journal of Sociology*, 87(4), 883–904.
- Mento, A. J., Locke, E. A., & Klein, H. J. (1992). Relationship of goal level to valence and instrumentality. *Journal of Applied Psychology*, 77(4), 395.
- Merton, R. K., & Barber, E. (1994). *The travels and adventures of serendipity: A study in sociological semantics and the sociology of science*. Princeton, NJ: Princeton University Press.
- Metz, I. (2004). Do personality traits indirectly affect women's advancement? *Journal of Managerial Psychology*, 19(7), 695–707.

- Meyer, J. W. (1977). The effects of education as an institution. *American Journal of Sociology*, 83(1), 55–77.
- Michael, J., & Yukl, G. (1993). Managerial level and subunit function as determinants of networking behavior in organizations. *Group & Organization Management*, 18(3), 328–351.
- Michaelson, C. (2008). Moral luck and business ethics. *Journal of Business Ethics*, 83(4), 773–787.
- Miller, D. T., & Ross, M. (1975). Self-serving biases in the attribution of causality: Fact or fiction?. *Psychological Bulletin*, 82(2), 213.
- Miller, M. J. (1983). The role of happenstance in career choice. *Vocational Guidance Quarterly*, 32(1), 16–20.
- Miller Burke, J., & Attridge, M. (2011). Pathways to career and leadership success: Part 1—A psychosocial profile of \$100 k professionals. *Journal of Workplace Behavioral Health*, 26(3), 175–206.
- Mitchell, K. E., Levin, A. S., & Krumboltz, J. D. (1999). Planned happenstance: Constructing unexpected career opportunities. *Journal of Counseling & Development*, 77(2), 115–124.
- Montes, S. D., & Zweig, D. (2009). Do promises matter? An exploration of the role of promises in psychological contract breach. *Journal of Applied Psychology*, 94(5), 1243–1260.
- Moore, G. (1990). Structural determinants of men's and women's personal networks. *American Sociological Review*, 726–735.

- Morgado, F. F. R., Meireles, J. F. F., Neves, C. M., Amaral, A. C. S., & Ferreira, M. E. C. (2017). Scale development: Ten main limitations and recommendations to improve future research practices. *Psicologia: Reflexão e Crítica*, 30, Article ID 3.
- Morris, M. H. (2015). Entrepreneurial intensity. *Wiley Encyclopedia of Management*, 1–5.
- Morrison, E. W., & Phelps, C. C. (1999). Taking charge at work: Extrarole efforts to initiate workplace change. *Academy of Management Journal*, 42(4), 403–419.
- Moy, P., Scheufele, D. A., & Holbert, R. L. (1999). Television use and social capital: Testing Putnam's time displacement hypothesis. *Mass Communication and Society*, 2(1–2), 27–45.
- Munch, A., McPherson, J. M., & Smith–Lovin, L. (1997). Gender, children, and social contact: The effects of childrearing for men and women. *American Sociological Review*, 509–520.
- Nasser, F., & Takahashi, T. (2003). The effect of using item parcels on ad hoc goodness-of-fit indexes in confirmatory factor analysis: An example using Sarason's Reactions to Tests. *Applied Measurement in Education*, 16(1), 75–97.
- Nelkin, D. K., (2013). "Moral Luck", In *The Stanford Encyclopedia of Philosophy*. E. N. Zalta (Ed.). Retrieved from <https://plato.stanford.edu/archives/sum2019/entries/moral-luck>
- Nelson, P. (1970). Information and consumer behavior. *Journal of Political Economy*, 78(2), 311–329.
- Newell, B. R., & Bright, J. E. (2002). Well past midnight: Calling time on implicit invariant learning?. *European Journal of Cognitive Psychology*, 14(2), 185–205.
- Ng, T. W., Eby, L. T., Sorensen, K. L., & Feldman, D. C. (2005). Predictors of objective and subjective career success: A meta-analysis. *Personnel psychology*, 58(2), 367–408.

- Ng, T. W., & Feldman, D. C. (2010a). Human capital and objective indicators of career success: The mediating effects of cognitive ability and conscientiousness. *Journal of Occupational and Organizational Psychology*, 83(1), 207–235.
- Ng, T. W., & Feldman, D. C. (2010b). The effects of organizational embeddedness on development of social capital and human capital. *Journal of Applied Psychology*, 95(4), 696.
- Ng, T. W., & Feldman, D. C. (2010c). The relationships of age with job attitudes: A meta-analysis. *Personnel Psychology*, 63(3), 677–718.
- Ng, T. W., & Feldman, D. C. (2014). Subjective career success: A meta-analytic review. *Journal of Vocational Behavior*, 85(2), 169–179.
- Nisbett, R. E., & Ross, L. (1991). *Person and the situation: Perspectives of social psychology*. Philadelphia, PA: Temple University Press.
- Noreen, E. W. (1989). *Computer-intensive methods for testing hypotheses*. New York, NY: Wiley.
- Nunnally, J. C. (1967). *Psychometric theory* (2nd ed.). New York, NY: McGraw–Hill.
- Nunnally, J. C. (1978). *Psychometric methods* (2nd ed.). New York, NY: McGraw–Hill.
- Oden, M. H. (1968). The fulfillment of promise: 40 year follow up of the Terman gifted group. *Genetic Psychology Monographs*, 77, 3–93.
- O'Neill, M. (2007). Death and taxes. *Renewal: A Journal of Social Democracy*, 15(4), 62.
- Ostroff, C., Kinicki, A. J., & Clark, M. A. (2002). Substantive and operational issues of response bias across levels of analysis: An example of climate-satisfaction relationships. *Journal of Applied Psychology*, 87(2), 355.

- Otto, K., Roe, R., Sobiraj, S., Baluku, M. M., & Garrido Vásquez, M. E. (2017). The impact of career ambition on psychologists' extrinsic and intrinsic career success: The less they want, the more they get. *Career Development International*, 22(1), 23–36.
- Paleczek, D., Bergner, S., & Rybnicek, R. (2018). Predicting career success: Is the dark side of personality worth considering?. *Journal of Managerial Psychology*, 33(6), 437–456.
- Pallant, J. (2013). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS* (5th ed.). Crows Nest, NSW: Allen & Unwin.
- Parcel, T. L., & Dufur, M. J. (2001a). Capital at home and at school: Effects on child social adjustment. *Journal of Marriage and Family*, 63(1), 32–47.
- Parcel, T. L., & Dufur, M. J. (2001b). Capital at home and at school: Effects on student achievement. *Social Forces*, 79(3), 881–911.
- Parker, P., Khapova, S. N., & Arthur, M. B. (2009). The intelligent career framework as a basis for interdisciplinary inquiry. *Journal of Vocational Behavior*, 75(3), 291–302.
- Parsian, N., & Dunning, T. (2009). Developing and validating a questionnaire to measure spirituality: A psychometric process. *Global Journal of Health Science*, 1(1), 2–11.
- Payne, S. C., Cook, A. L., & Diaz, I. (2012). Understanding childcare satisfaction and its effect on workplace outcomes: The convenience factor and the mediating role of work-family conflict. *Journal of Occupational and Organizational Psychology*, 85(2), 225–244.
- Pekrun, R., Elliot, A. J., & Maier, M. A. (2009). Achievement goals and achievement emotions: Testing a model of their joint relations with academic performance. *Journal of Educational Psychology*, 101(1), 115.

- Penney, L. M., Hunter, E. M., & Perry, S. J. (2011). Personality and counterproductive work behaviour: Using conservation of resources theory to narrow the profile of deviant employees. *Journal of Occupational and Organizational Psychology*, 84(1), 58–77.
- Pfeffer, J., & Ross, J. (1982). The effects of marriage and a working wife on occupational and wage attainment. *Administrative Science Quarterly*, 66–80.
- Pishghadam, R., & Zabihi, R. (2011). Parental education and social and cultural capital in academic achievement. *International Journal of English Linguistics*, 1(2), 50.
- Pluchino, A., Biondo, A. E., & Rapisarda, A. (2018). Talent versus luck: The role of randomness in success and failure. *Advances in Complex Systems*, 21(03n04), 1850014.
- Podolny, J. M., & Baron, J. N. (1997). Resources and relationships: Social networks and mobility in the workplace. *American Sociological Review*, 673–693.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879.
- Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, 63, 539–569.
- Porter, C. O., Outlaw, R., Gale, J. P., & Cho, T. S. (2019). The use of online panel data in management research: A review and recommendations. *Journal of Management*, 45(1), 319–344.
- Porter, J. N. (1976). Socialization and mobility in educational and early occupational attainment. *Sociology of Education*, 49(1), 23–33.

- Powell, B., & Steelman, L. C. (1993). The educational benefits of being spaced out: Sibship density and educational progress. *American Sociological Review*, 58(3), 367–381.
- Powell, G. N., & Butterfield, D. A. (1994). Investigating the “glass ceiling” phenomenon: An empirical study of actual promotions to top management. *Academy of Management Journal*, 37(1), 68–86.
- Powell, G. N., & Butterfield, D. A. (1997). Effect of race on promotions to top management in a federal department. *Academy of Management Journal*, 40(1), 112–128.
- Praskova, A., Hood, M., & Creed, P. A. (2014). Testing a calling model of psychological career success in Australian young adults: A longitudinal study. *Journal of Vocational Behavior*, 85(1), 125–135.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments & Computers*, 36(4), 717–731.
- Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, 42(1), 185–227.
- Price, J. L., & Mueller, C. W. (1986). *Absenteeism and turnover of hospital employees*. Stamford, CT: JAI Press.
- Pritchard, D. (2010). Achievements, luck and value. *Think*, 9(25), 19–30.
- Pritchard, D. (2014). The modal account of luck. *Metaphilosophy*, 45(4–5), 594–619.
- Pritchard, D. (2017). Knowledge, luck, and virtue: Resolving the Gettier problem. In R. Borges, C. Almeida, & P. Klein (Eds.), *Explaining Knowledge: New Essays on the Gettier Problem* (pp. 57–73). Oxford, England: Oxford University Press.

- Pritchard, D., & Whittington, L. J. (Eds.). (2015). *The philosophy of luck*. West Sussex, England: John Wiley & Sons Ltd.
- Psacharopoulos, G. (1985). Returns to education: A further international update and implications. *Journal of Human resources*, 20(4), 583–604.
- Putnam, R. D. (2000). Bowling alone: America's declining social capital. In L. Crothers & C. Lockhart (Eds.), *Culture and politics* (pp. 223–234). New York, NY: Palgrave Macmillan.
- Quade, M. J., Greenbaum, R. L., & Petrenko, O. V. (2017). "I don't want to be near you, unless...": The interactive effect of unethical behavior and performance onto relationship conflict and workplace ostracism. *Personnel Psychology*, 70(3), 675–709.
- Reardon, S. F. (2011). The widening academic achievement gap between the rich and the poor: New evidence and possible explanations. In G. J. Duncan & R. J. Murnane (Eds.), *Whither opportunity: Rising inequality, schools, and children's life chances* (pp. 91–116). New York, NY: Russell SAGE Foundation.
- Richardson, H. A., Simmering, M. J., & Sturman, M. C. (2009). A tale of three perspectives: Examining post hoc statistical techniques for detection and correction of common method variance. *Organizational Research Methods*, 12(4), 762–800.
- Ricketts Gaskill, L. (1991). Women's career success: A factor analytic study of contributing factors. *Journal of Career Development*, 17(3), 167–178.
- Rodrigues, R. A., & Guest, D. (2010). Have careers become boundaryless?. *Human Relations*, 63(8), 1157–1175.
- Roe, A., & Baruch, R. (1967). Occupational changes in the adult years. *Personnel Administration*, 30(4), 26–32.

- Roemer, J. E. (1996). *Egalitarian perspectives: Essays in philosophical economics*. Cambridge, England: Cambridge University Press.
- Rogošić, S., & Baranović, B. (2016). Social capital and educational achievements: Coleman vs. Bourdieu. *Center for Educational Policy Studies Journal*, 6(2), 81–100.
- Rojewski, J. W. (1999). The role of chance in the career development of individuals with learning disabilities. *Learning Disability Quarterly*, 22(4), 267–278.
- Rosenbaum, J. E. (1984). *Career mobility in a corporate hierarchy*. New York, NY: Academic Press.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs: General and Applied*, 80(1), 1.
- Rotter, J. B., Chance, J. E., & Phares, E. J. (1972). *Applications of a social learning theory of personality*. Oxford, England: Holt, Rinehart & Winston.
- Rumelt, R. (1984). Toward a strategic theory of firm. In R. Lamb (Ed.), *Competitive strategic management* (pp. 556–570). Englewood Cliffs, NJ: Prentice–Hall.
- Rumelt, R. (1987). Theory, strategy, and entrepreneurship. In D. Teece (Ed.), *The competitive challenge: Strategies for industrial innovation and renewal* (pp. 137–158). Cambridge, MA: Ballinger.
- Russell, D. W. (2002). In search of underlying dimensions: The use (and abuse) of factor analysis in Personality and Social Psychology Bulletin. *Personality and Social Psychology Bulletin*, 28(12), 1629–1646.
- Russo, N. F., Kelly, R. M., & Deacon, M. (1991). Gender and success-related attributions: Beyond individualistic conceptions of achievement. *Sex Roles*, 25(5–6), 331–350.

- Sackett, P. R., & Larson Jr, J. R. (1990). Research strategies and tactics in industrial and organizational psychology. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (pp. 419–489). Palo Alto, CA: Consulting Psychologists Press.
- Salomone, P. R., & Slaney, R. B. (1981). The influence of chance and contingency factors on the vocational choice process of nonprofessional workers. *Journal of Vocational Behavior*, 19(1), 25–35.
- Sass, D. A. (2010). Factor loading estimation error and stability using exploratory factor analysis. *Educational and Psychological Measurement*, 70(4), 557–577.
- Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology*, 4(3), 219.
- Schmitt, N. W., & Klimoski, R. J. (1991). *Research methods in human resources management*. Cincinnati, OH: Southwestern.
- Schriesheim, C. A., Powers, K. J., Scandura, T. A., Gardiner, C. C., & Lankau, M. J. (1993). Improving construct measurement in management research: Comments and a quantitative approach for assessing the theoretical content adequacy of paper-and-pencil survey-type instruments. *Journal of Management*, 19(2), 385–417.
- Schroeder, D. H., & Costa, P. T. (1984). Influence of life event stress on physical illness: Substantive effects or methodological flaws?. *Journal of Personality and Social Psychology*, 46(4), 853.
- Schumacker, R. E., & Lomax, R. G. (2004). *A beginner's guide to structural equation modeling*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Schwiyhart, W. R., & Smith, P. C. (1972). Factors in the job involvement of middle managers. *Journal of Applied Psychology*, 36(3), 227–233.

- Seibert, S. E. (2006). Career success. In J. H. Greenhaus & G. A. Callanan (Eds.), *Encyclopedia of career development* (pp. 148–154). London, England: SAGE.
- Seibert, S. E., Crant, J. M., & Kraimer, M. L. (1999). Proactive personality and career success. *Journal of Applied Psychology*, 84(3), 416.
- Seibert, S. E., Kraimer, M. L., Holtom, B. C., & Pierotti, A. J. (2013). Even the best laid plans sometimes go askew: Career self-management processes, career shocks, and the decision to pursue graduate education. *Journal of Applied Psychology*, 98(1), 169.
- Seibert, S. E., Kraimer, M. L., & Liden, R. C. (2001). A social capital theory of career success. *Academy of Management Journal*, 44(2), 219–237.
- Sekaran, U., & Bougie, R. (2009). Theoretical framework and hypothesis development. In *Research methods for business: A skill building approach* (5th ed.), 80. Hoboken, NJ: John Wiley and Sons Inc.
- Selenko, E., Mäkikangas, A., Mauno, S., & Kinnunen, U. (2013). How does job insecurity relate to self-reported job performance? Analysing curvilinear associations in a longitudinal sample. *Journal of Occupational and Organizational Psychology*, 86(4), 522–542.
- Sewell, W. H., Hauser, R. M., Springer, K. W., & Hauser, T. S. (2003). As we age: A review of the Wisconsin Longitudinal Study, 1957–2001. *Research in Social Stratification and Mobility*, 20, 3–111.
- Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston, MA: Houghton Mifflin Company.

- Shah, D. V., Cho, J., Eveland Jr, W. P., & Kwak, N. (2005). Information and expression in a digital age: Modeling Internet effects on civic participation. *Communication Research*, 32(5), 531–565.
- Shah, D. V., McLeod, J. M., & Yoon, S. H. (2001). Communication, context, and community: An exploration of print, broadcast, and Internet influences. *Communication Research*, 28(4), 464–506.
- Sharma, R., Yetton, P. W., & Crawford, J. (2009). Techniques to control for common method variance in mono-method research designs: A brief overview. *MIS Quarterly*, 33(3), A1–A2.
- Sheridan, S. M. (1997). Conceptual and empirical bases of conjoint behavioral consultation. *School Psychology Quarterly*, 12(2), 119.
- Shin, J., Taylor, M. S., & Seo, M. G. (2012). Resources for change: The relationships of organizational inducements and psychological resilience to employees' attitudes and behaviors toward organizational change. *Academy of Management journal*, 55(3), 727–748.
- Shockley, K. M., Ureksoy, H., Rodopman, O. B., Poteat, L. F., & Dullaghan, T. R. (2016). Development of a new scale to measure subjective career success: A mixed-methods study. *Journal of Organizational Behavior*, 37(1), 128–153.
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, 7(4), 422–445.
- Silvester, J., & Chapman, A. J. (1997). Asking "Why?" in the workplace: Causal attributions and organizational behavior. *Trends in Organizational Behavior*, 4, 1–14.

- Singer, M. S., & Bruhns, C. (1991). Relative effect of applicant work experience and academic qualification on selection interview decisions: A study of between-sample generalizability. *Journal of Applied Psychology*, 76(4), 550.
- Singh, R., Ragins, B. R., & Tharenou, P. (2009). What matters most? The relative role of mentoring and career capital in career success. *Journal of Vocational Behavior*, 75(1), 56–67.
- Sirin, S. R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research*, 75(3), 417–453.
- Smithson, J. (2000). Using and analysing focus groups: Limitations and possibilities. *International Journal of Social Research Methodology*, 3(2), 103–119.
- Son, J., & Lin, N. (2012). Network diversity, contact diversity, and status attainment. *Social Networks*, 34(4), 601–613.
- Spector, P. E. (2006). Method variance in organizational research: Truth or urban legend?. *Organizational Research Methods*, 9(2), 221–232.
- Spector, P. E., & Brannick, M. T. (2009). Common method variance or measurement bias? The problem and possible solutions. In D. A. Buchanan & A. Bryman (Eds.), *The SAGE handbook of organizational research methods* (pp. 346–362). Thousand Oaks, CA: SAGE Publications Ltd.
- Spence, M. (1973). Job Market Signaling. *Quarterly Journal of Economics*, 87(3), 355–374.
- Spence, M. (1974). Competitive and optimal responses to signals: An analysis of efficiency and distribution. *Journal of Economic Theory*, 7(3), 296–332.
- Spence, M. (2002). Signaling in retrospect and the informational structure of markets. *American Economic Review*, 92(3), 434–459.

- Spurk, D., & Abele, A. E. (2011). Who earns more and why? A multiple mediation model from personality to salary. *Journal of Business and Psychology, 26*(1), 87–103.
- Spurk, D., & Abele, A. E. (2014). Synchronous and time-lagged effects between occupational self-efficacy and objective and subjective career success: Findings from a four-wave and 9-year longitudinal study. *Journal of Vocational Behavior, 84*(2), 119–132.
- Spurk, D., Hirschi, A., & Dries, N. (2019). Antecedents and outcomes of objective versus subjective career success: Competing perspectives and future directions. *Journal of Management, 45*(1), 35–69.
- Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research, 25*(2), 173–180.
- Stoeber, J., Otto, K., & Dalbert, C. (2009). Perfectionism and the Big Five: Conscientiousness predicts longitudinal increases in self-oriented perfectionism. *Personality and Individual Differences, 47*(4), 363–368.
- Stone, E. F. (1978). *Research methods in organizational behavior*. Pacific Palisades, CA: Goodyear Publishing Company.
- Strober, M. H. (1990). Human capital theory: Implications for HR managers. *Industrial Relations: A Journal of Economy and Society, 29*(2), 214–239.
- Stroh, L. K., Brett, J. M., & Reilly, A. H. (1992). All the right stuff: A comparison of female and male managers' career progression. *Journal of Applied Psychology, 77*(3), 251.
- Stumpf, S. A. (2014). A longitudinal study of career success, embeddedness, and mobility of early career professionals. *Journal of Vocational Behavior, 85*(2), 180–190.
- Stumpf, S. A., & Tymon Jr, W. G. (2012). The effects of objective career success on subsequent subjective career success. *Journal of Vocational Behavior, 81*(3), 345–353.

- Sullivan, S. E. (1999). The changing nature of careers: A review and research agenda. *Journal of Management*, 25(3), 457–484.
- Sullivan, S. E. (2001). Careers in the 21st Century. *Group & Organization Management*, 26(3), 252–254.
- Sullivan, S. E., & Baruch, Y. (2009). Advances in career theory and research: A critical review and agenda for future exploration. *Journal of Management*, 35(6), 1542–1571.
- Super, D. E. (1980). A life-span, life-space approach to career development. *Journal of Vocational Behavior*, 16(3), 282–298.
- Sutin, A. R., Costa Jr, P. T., Miech, R., & Eaton, W. W. (2009). Personality and career success: Concurrent and longitudinal relations. *European Journal of Personality: Published for the European Association of Personality Psychology*, 23(2), 71–84.
- Sutton Trust (2019, August 15). University aspirations 2019. Retrieved from <https://www.suttontrust.com/research-paper/university-aspirations-2019/>
- Sweetland, S. R. (1996). Human capital theory: Foundations of a field of inquiry. *Review of Educational Research*, 66(3), 341–359.
- Swenson-Lepper, T. (2005). Ethical sensitivity for organizational communication issues: Examining individual and organizational differences. *Journal of Business Ethics*, 59(3), 205–231.
- Swinyard, A. W., & Bond, F. A. (1980). Who gets promoted. *Harvard Business Review*, 58(5), 6–18.
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Needham, MA: Allyn & Bacon.

- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics: International edition* (6th ed.). Boston, MA: Pearson.
- Tharenou, P. (2001). The relationship of training motivation to participation in training and development. *Journal of Occupational and Organizational Psychology*, 74(5), 599–621.
- Tharenou, P., Donohue, R., & Cooper, B. (2007). *Management research methods*. Port Melbourne, Vic: Cambridge University Press.
- Tharenou, P., Latimer, S., & Conroy, D. (1994). How do you make it to the top? An examination of influences on women's and men's managerial advancement. *Academy of Management Journal*, 37(4), 899–931.
- Thompson, B. (2004). *Exploratory and confirmatory factor analysis: Understanding concepts and applications*. Washington, DC: American Psychological Association.
- Tofighi, D., & MacKinnon, D. P. (2011). RMediation: An R package for mediation analysis confidence intervals. *Behavior Research Methods*, 43(3), 692–700.
- Travis, J. (1995). Education in law enforcement: Beyond the college degree. *Criminal Justice in the Americas*, 8(3), 6–10.
- Tucker, L. R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika*, 38(1), 1–10.
- Turban, D. B., & Dougherty, T. W. (1994). Role of protégé personality in receipt of mentoring and career success. *Academy of Management Journal*, 37(3), 688–702.
- Turner, R. H. (1960). Sponsored and contest mobility and the school system. *American Sociological Review* 25(6), 855–867.

- Ullman, J. B., & Bentler, P. M. (2003). Structural equation modeling. In J. A. Schinka & W. F. Velicer (Eds.), *Handbook of psychology: Research methods in psychology* (Vol. 2, pp. 607–634). Hoboken, NJ: John Wiley & Sons, Inc.
- Valcour, M., & Ladge, J. J. (2008). Family and career path characteristics as predictors of women's objective and subjective career success: Integrating traditional and protean career explanations. *Journal of Vocational Behavior*, 73(2), 300–309.
- Van Andel, P. (1994). Anatomy of the unsought finding. Serendipity: Origin, history, domains, traditions, appearances, patterns and programmability. *The British Journal for the Philosophy of Science*, 45(2), 631–648.
- Van der Heijde, C. M., & Van der Heijden, B. I. (2006). A competence-based and multidimensional operationalization and measurement of employability. *Human Resource Management*, 45(3), 449–476.
- Van Maanen, J. (1977). *Organizational careers: Some new perspectives*. Chichester, England: John Wiley & Sons.
- Van Vianen, A. E. (1999). Managerial self-efficacy, outcome expectancies, and work-role salience as determinants of ambition for a managerial position. *Journal of Applied Social Psychology*, 29(3), 639–665.
- Wang, L., & Preacher, K. J. (2015). Moderated mediation analysis using Bayesian methods. *Structural Equation Modeling: A Multidisciplinary Journal*, 22(2), 249–263.
- Warner, W. L., & Abegglen, J. C. (1955). *Occupational mobility in American business and industry, 1928–1952*. Minneapolis, MN: University of Minnesota Press.
- Watkins, D. (1987). Academic locus of control: A relevant variable at tertiary level?. *Higher Education*, 16(2), 221–229.

- Wayne, S. J., Liden, R. C., Kraimer, M. L., & Graf, I. K. (1999). The role of human capital, motivation and supervisor sponsorship in predicting career success. *Journal of Organizational Behavior*, 20(5), 577–595.
- Weiner, B. (1979). A theory of motivation for some classroom experiences. *Journal of Educational Psychology*, 71(1), 3.
- Weiner, B., Frieze, I., Kukla, A., Reed, L., Rest, S., & Rosenbaum, R. M. (1971). Perceiving the causes of success and failure. In E. E. Jones, D. E. Kanouse, H. H. Kelley, R. E. Nisbett, S. Valins & B. Weiner (Eds.), *Attribution: Perceiving the causes of behavior* (pp. 95–120). New York, NY: General Learning Press.
- Weiner, B., Heckhausen, H., & Meyer, W. U. (1972). Causal ascriptions and achievement behavior: A conceptual analysis of effort and reanalysis of locus of control. *Journal of Personality and Social Psychology*, 21(2), 239–248.
- Weisz, J. R. (1980). Developmental change in perceived control: Recognizing noncontingency in the laboratory and perceiving it in the world. *Developmental Psychology*, 16(5), 385–390.
- Weisz, J. R., Yeates, K. O., Robertson, D., & Beckham, J. C. (1982). Perceived contingency of skill and chance events: A developmental analysis. *Developmental Psychology*, 18(6), 898–905.
- Western, M., Baxter, J., Pakulski, J., Tranter, B., Western, J., Van Egmond, M., ... & Van Gellecum, Y. (2007). Neoliberalism, inequality and politics: The changing face of Australia. *Australian Journal of Social Issues*, 42(3), 401–418.
- White, M. J., & Glick, J. E. (2000). Generation status, social capital, and the routes out of high school. *Sociological Forum*, 15(4), 671–691.

- Whitely, W., Dougherty, T. W., & Dreher, G. F. (1991). Relationship of career mentoring and socioeconomic origin to managers' and professionals' early career progress. *Academy of Management Journal*, 34(2), 331–350.
- Wigen, K., Holen, A., & Ellingsen, Ø. (2003). Predicting academic success by group behaviour in PBL. *Medical Teacher*, 25(1), 32–37.
- Williams, E. N., Soeprapto, E., Like, K., Touradji, P., Hess, S., & Hill, C. E. (1998). Perceptions of serendipity: Career paths of prominent academic women in counseling psychology. *Journal of Counseling Psychology*, 45(4), 379–389.
- Williams, J., & MacKinnon, D. P. (2008). Resampling and distribution of the product methods for testing indirect effects in complex models. *Structural Equation Modeling: A Multidisciplinary Journal*, 15(1), 23–51.
- Williams, L. J., & Brown, B. K. (1994). Method variance in organizational behavior and human resources research: Effects on correlations, path coefficients, and hypothesis testing. *Organizational Behavior and Human Decision Processes*, 57(2), 185–209.
- Winkel, D. E., Wyland, R. L., Shaffer, M. A., & Clason, P. (2011). A new perspective on psychological resources: Unanticipated consequences of impulsivity and emotional intelligence. *Journal of Occupational and Organizational Psychology*, 84(1), 78–94.
- Witt, L. A., Andrews, M. C., & Carlson, D. S. (2004). When conscientiousness isn't enough: Emotional exhaustion and performance among call center customer service representatives. *Journal of Management*, 30(1), 149–160.
- Wohl, M. J., Stewart, M. J., & Young, M. M. (2011). Personal Luck Usage Scale (PLUS): Psychometric validation of a measure of gambling-related belief in luck as a personal possession. *International Gambling Studies*, 11(01), 7–21.

- Wolf, E. J., Harrington, K. M., Clark, S. L., & Miller, M. W. (2013). Sample size requirements for structural equation models: An evaluation of power, bias, and solution propriety. *Educational and psychological measurement*, 73(6), 913-934.
- Wood, A. M., Saylor, C., & Cohen, J. (2009). Locus of control and academic success among ethnically diverse baccalaureate nursing students. *Nursing Education Perspectives*, 30(5), 290–294.
- Wright, P. M., & McMahan, G. C. (2011). Exploring human capital: Putting ‘human’ back into strategic human resource management. *Human Resource Management Journal*, 21(2), 93–104.
- Wu, C. H., Griffin, M. A., & Parker, S. K. (2015). Developing agency through good work: Longitudinal effects of job autonomy and skill utilization on locus of control. *Journal of Vocational Behavior*, 89, 102–108.
- Wu, P. C., Foo, M. D., & Turban, D. B. (2008). The role of personality in relationship closeness, developer assistance, and career success. *Journal of Vocational Behavior*, 73(3), 440–448.
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009). Reciprocal relationships between job resources, personal resources, and work engagement. *Journal of Vocational behavior*, 74(3), 235–244.
- Yahalom, J. (2014). Freud and Epicurean philosophy: Revisiting Drive theory. *Contemporary Psychoanalysis*, 50(3), 395-417.
- Yuan, K. H., Bentler, P. M., & Kano, Y. (1997). On averaging variables in a confirmatory factor analysis model. *Behaviormetrika*, 24(1), 71–83.
- Zangelidis, A. (2008). Occupational and industry specificity of human capital in the British labour market. *Scottish Journal of Political Economy*, 55(4), 420–443.

- Zhang, W., & Chia, S. C. (2006). The effects of mass media use and social capital on civic and political participation. *Communication Studies*, 57(3), 277–297.
- Zhou, H., & Fishbach, A. (2016). The pitfall of experimenting on the web: How unattended selective attrition leads to surprising (yet false) research conclusions. *Journal of Personality and Social Psychology*, 111(4), 493.
- Zuckerman, M. (1979). Attribution of success and failure revisited: or The motivational bias is alive and well in attribution theory. *Journal of Personality*, 47(2), 245–287.

Appendix A: Ethics Approval



Monash University Human Research Ethics Committee

Approval Certificate

This is to certify that the project below was considered by the Monash University Human Research Ethics Committee. The Committee was satisfied that the proposal meets the requirements of the *National Statement on Ethical Conduct in Human Research* and has granted approval.

Project Number: 9405

Project Title: With a little luck: The role of luck in the relationship between ambition and career success

Chief Investigator: Dr Kohyar Kiazad

Expiry Date: 27/06/2022

Terms of approval - failure to comply with the terms below is in breach of your approval and the *Australian Code for the Responsible Conduct of Research*.

1. The Chief Investigator is responsible for ensuring that permission letters are obtained, if relevant, before any data collection can occur at the specified organisation.
2. Approval is only valid whilst you hold a position at Monash University.
3. It is responsibility of the Chief Investigator to ensure that all investigators are aware of the terms of approval and to ensure the project is conducted as approved by MUHREC.
4. You should notify MUHREC immediately of any serious or unexpected adverse effects on participants or unforeseen events affecting the ethical acceptability of the project.
5. The Explanatory Statement must be on Monash letterhead and the Monash University complaints clause must include your project number.
6. Amendments to approved projects including changes to personnel must not commence without written approval from MUHREC.
7. Annual Report - continued approval of this project is dependent on the submission of an Annual Report.
8. Final Report - should be provided at the conclusion of the project. MUHREC should be notified if the project is discontinued before the expected completion date.
9. Monitoring - project may be subject to an audit or any other form of monitoring by MUHREC at any time.
10. Retention and storage of data - The Chief Investigator is responsible for the storage and retention of the original data pertaining to the project for a minimum period of five years.

Thank you for your assistance.

Professor Nip Thomson

Chair, MUHREC

CC: Dr Kohyar Kiazad, Assoc Professor Brian Cooper

List of approved documents:

Document Type	File Name	Date	Version
Consent Form	Consent Form Ethic App	23/05/2017	1
Questionnaires / Surveys	Ethics App Surveyv2 (1) revised	21/06/2017	2
Explanatory Statement	Explanatory Statement Ashlee Luck Final (1) Revised	21/06/2017	revised
Explanatory Statement	Explanatory Statement Ashlee Linck Interview Final (1) revised	21/06/2017	revised

Appendix B: Explanatory Statement for Study 1 Survey

EXPLANATORY STATEMENT

With a little luck: The role of luck in the relationship between ambition and career success

We are contacting you to invite your participation in a research project that is for completion of a Doctorate in Philosophy (PhD). The purpose of this research is to understand how luck influences career success. I am conducting a research project on this topic with Dr. Kohyar Kiazad and Associate Professor Brian Cooper, in the Monash University Department of Management. Individual responses will not be shared with anyone, but will be aggregated with the responses of other participants and reported only in aggregate form. By participating in this study you may help organisations understand and improve career counselling practices. This project has been approved by Monash University's Human Research Ethics Committee.

What will I be asked to do?

- Should you agree to participate, we ask that you complete the online survey available via the following link within the next 10 days.
https://monash.azure.qualtrics.com/jfe/form/SV_8euGhzmY1CF7s1f
- It will take approximately 5 minutes to complete. You can complete the online survey at a time and place that is convenient to you.
- Please answer the questions in the order they are presented. You may refuse to answer any questions you do not want to answer simply by leaving them blank. The data you provide will be returned directly to the researchers.

Involvement in this study is completely voluntary and the information collected will remain confidential. Your consent to participate will be implied from the completion of your survey and its return to the researchers.

How will my confidentiality be protected?

- This content validation survey is anonymous. No personal identifiers (such as your name, email address etc.) will be recorded. Your information will also be treated as strictly confidential. The data will be aggregated across all research participants and no individual responses will be reported. The survey data will be kept securely in the Department of Management at Monash University for five years from the date of publication, before being destroyed.

How will I receive feedback?

- A summary of the findings will be sent to all participants via e-mail who wish to receive it. In this summary, no individual names will be identified. The data will only report average responses across participants. Please email the Chief Investigator listed at the top of this page if you would like to receive a summary of the findings.

Will participation prejudice me in any way?

- Please be advised that your participation in this research is completely voluntary. Should you wish to withdraw at any stage, or to withdraw any unprocessed data you have supplied, you are free to do so without prejudice. Your decision on whether or not to participate will not affect your current or future relations with the University.

Where can I get further information?

- Should you require any further information, or have any concerns, please do not hesitate to contact Ashlee Linck (04) 2098 7941. Should you have any concerns or complaints about the conduct of the project, you are welcome to contact the Executive Officer, Monash University Human Research Ethics (MUHREC):
Executive Officer
Monash University Human Research Ethics Committee (MUHREC)
Room 111, Building 3e
Research Office
Monash University VIC 3800
Tel: 03 9905 2052 Email: muhrec@monash.edu Fax: 03 9905 3831

Best Regards,

Chief Investigator: Ashlee Linck
Monash University
Department of Management
Phone: (04) 2098 7941
email: ashlee.linck@monash.edu

Co-investigator: Dr. Kohyar Kiazad
Monash University
Department of Management
Phone: (03) 9903 1433
email: kohyar.kiazad@monash.edu

Co-investigator: Associate Professor Brian Cooper
Monash University
Department of Management
email: brian.cooper@monash.edu

Appendix C: Content Validation for a Measure of Luck Events

As part of the process of developing a new instrument to measure luck events, we wish to invite you as a subject matter expert to comment on the content validity of the items. Participation is voluntary and completely anonymous. The validation should take five minutes to complete.

I. REPRESENTATIVENESS

Please indicate the extent to which you consider each of the following items to be representative of luck events by selecting the most appropriate response. The definition of luck is provided to assist you in the judgment process.

Not	Minimally	Moderately	Strongly
Representative	Representative	Representative	Representative
1	2	3	4

Definition: Luck defies human action and intention, has no purposeful control, is unexpected and is not controllable (Ma, 2002).

Items

- Have you ever received an unexpected financial windfall?
1 2 3 4
- Have you ever been unintentionally exposed to a type of work or activity that you (later) found interesting?
1 2 3 4
- Have you ever received a promotion for which you did not apply?
1 2 3 4
- Have you completed additional education in your field that resulted in a promotion?
1 2 3 4
- Have you been recruited for an external job advancement that you did not seek?
1 2 3 4
- Are you male?
1 2 3 4
- What year were you born?
1 2 3 4
- Where were you born?
1 2 3 4
- What is your birth order? (1st, 2nd, 3rd, etc)?
1 2 3 4

10. What number of siblings, with whom you share the same mother and father, do you have?
1 2 3 4
11. Have you forged an unexpected relationship with someone that helped your career?
1 2 3 4
12. What is the socioeconomic background of your family?
1 2 3 4
13. Have you sought out a mentor who championed your career?
1 2 3 4

Are there any items that you think should be added to the above list? If so, please write them in the space provided.

If you think there any items that are unclear or invite ambiguous interpretations, please indicate which ones and briefly mention the reasons why.

Thank you for your participation.

Appendix D: Explanatory Statement for Study 3 Survey

EXPLANATORY STATEMENT

With a little luck: The role of luck in the relationship between ambition and career success

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https://monash.azure.qualtrics.com/jfe/form/SV_8euGhzmY1CF7s1f
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Will participation prejudice me in any way?

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Room 111, Building 3e
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Monash University VIC 3800
Tel: 03 9905 2052 Email: muhrec@monash.edu Fax: 03 9905 3831

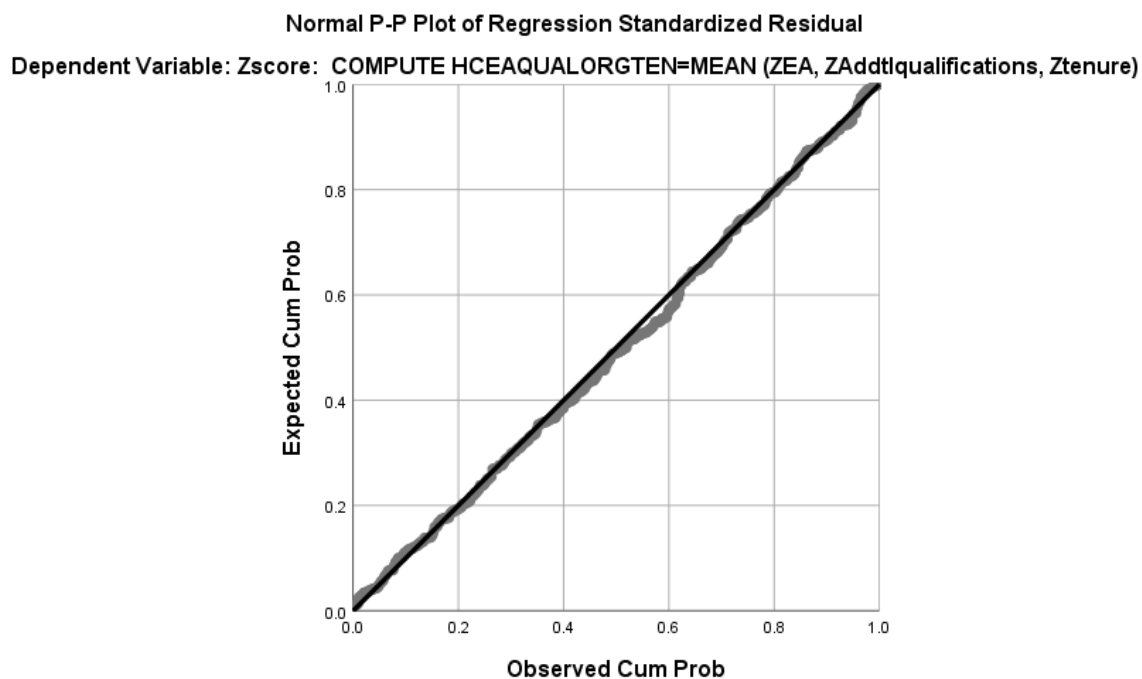
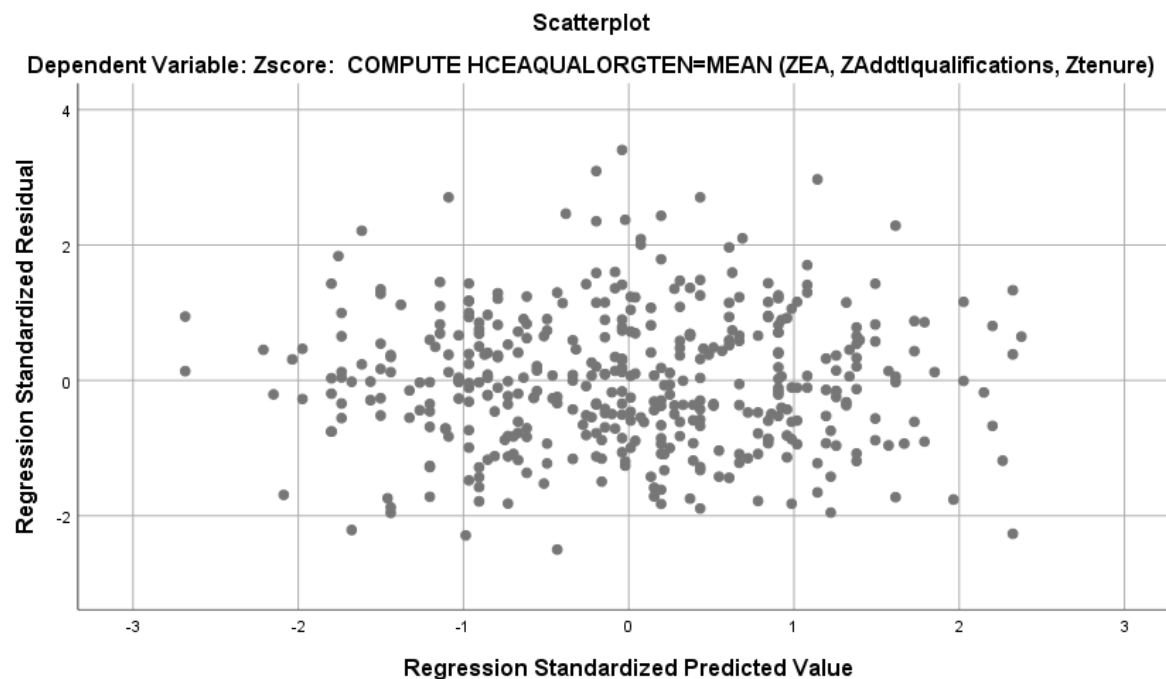
Best Regards,

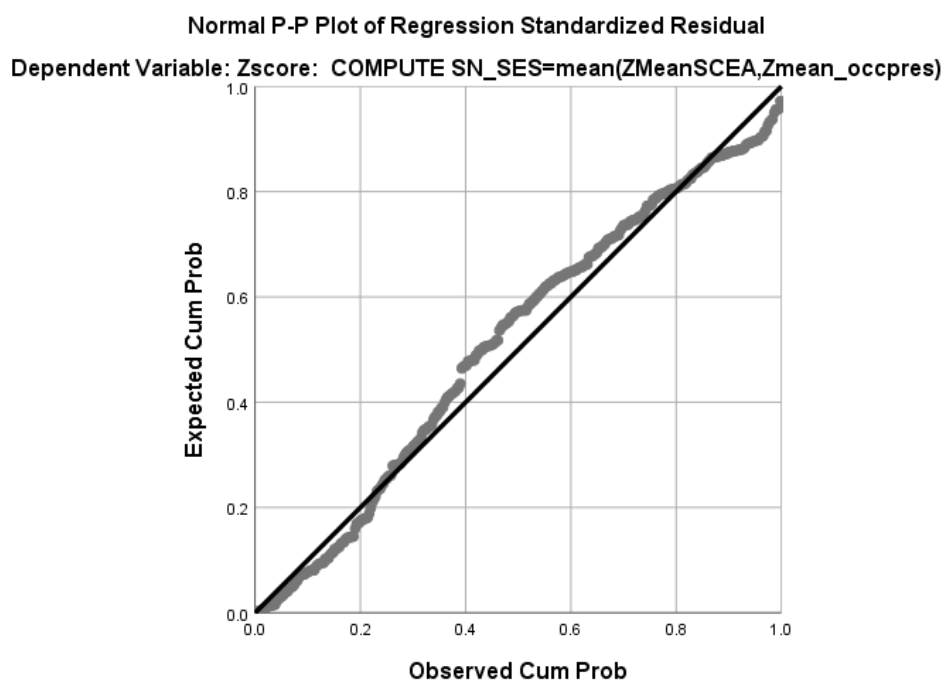
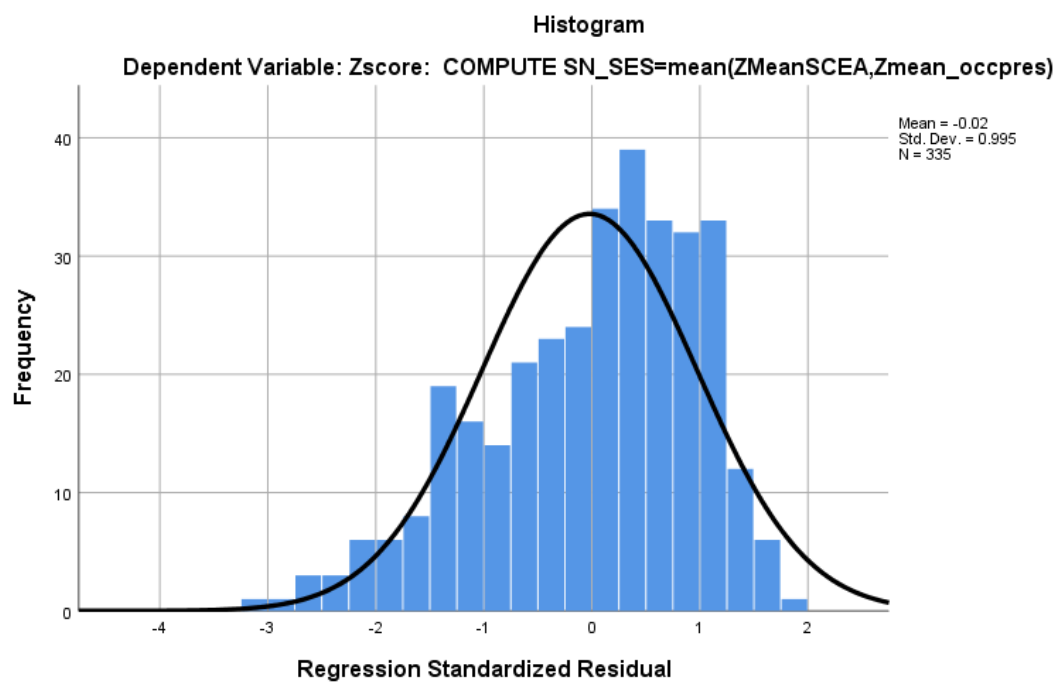
Chief Investigator: Ashlee Linck
Monash University
Department of Management
Phone: (04) 2098 7941
email: ashlee.linck@monash.edu

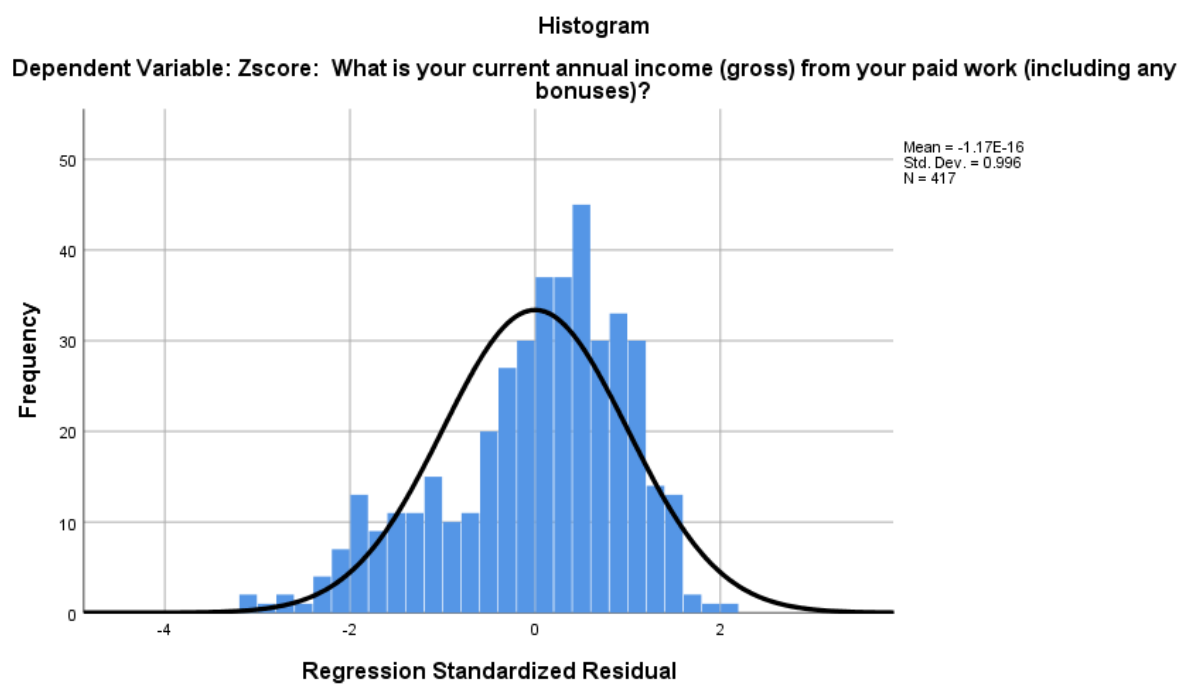
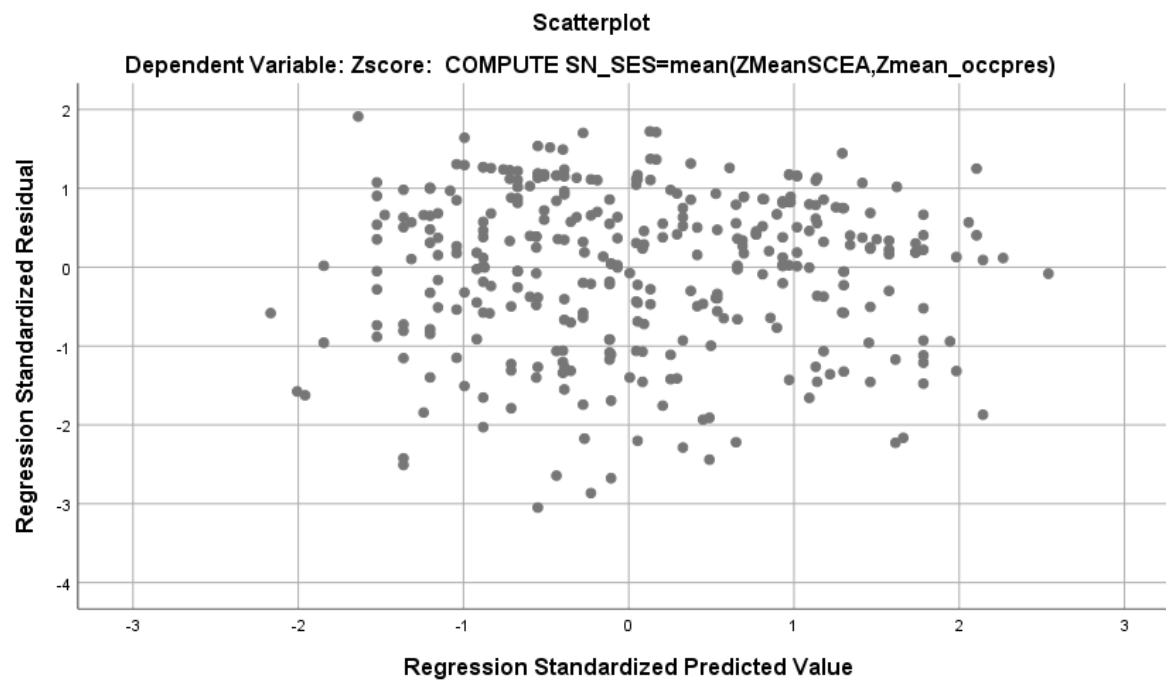
Co-investigator: Dr. Kohyar Kiazad
Monash University
Department of Management
Phone: (03) 9903 1433
email: kohyar.kiazad@monash.edu

Co-investigator: Associate Professor Brian Cooper
Monash University
Department of Management
email: brian.cooper@monash.edu

Appendix E: Confirmatory Factor Analyses, Regression Diagnostics, and Univariate Normality Tests

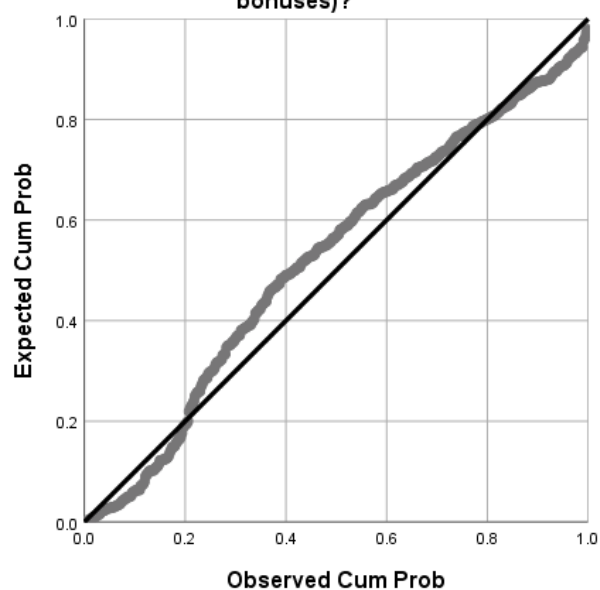






Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Zscore: What is your current annual income (gross) from your paid work (including any bonuses)?



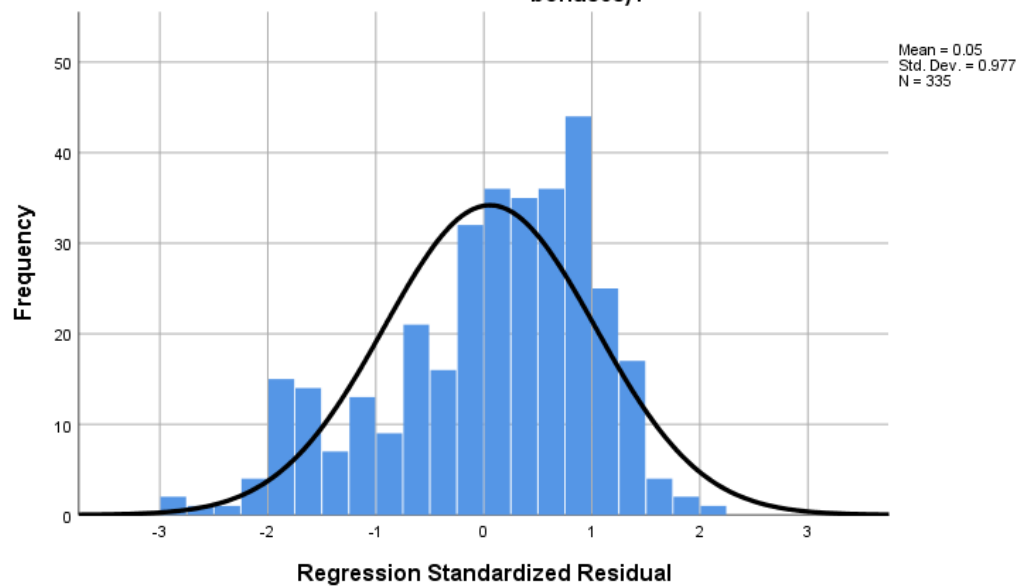
Scatterplot

Dependent Variable: Zscore: What is your current annual income (gross) from your paid work (including any bonuses)?



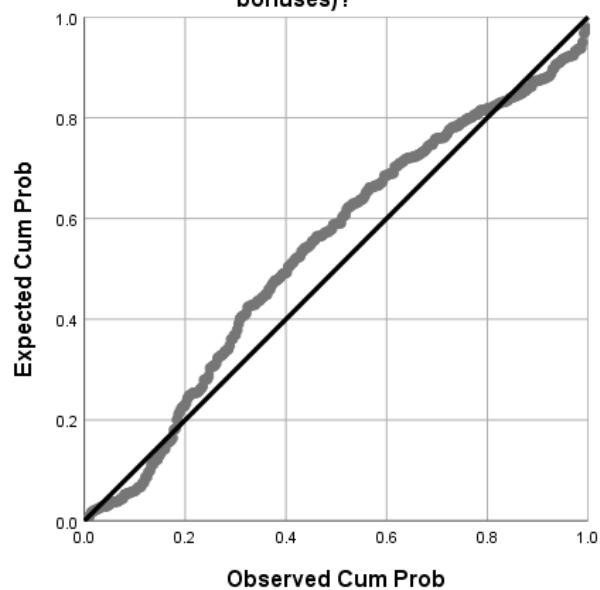
Histogram

Dependent Variable: Zscore: What is your current annual income (gross) from your paid work (including any bonuses)?



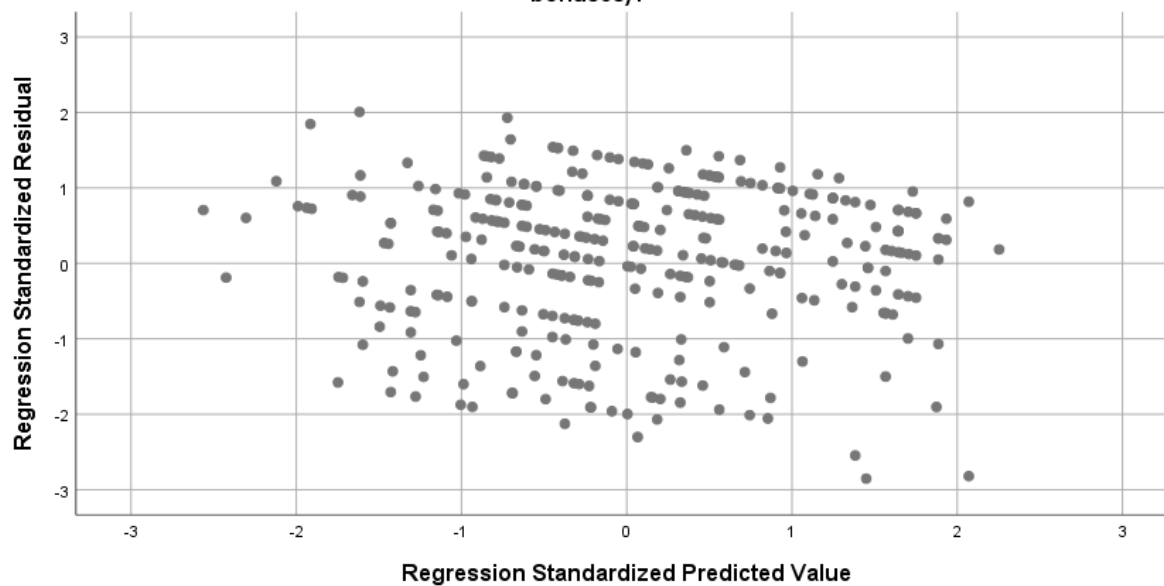
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Zscore: What is your current annual income (gross) from your paid work (including any bonuses)?



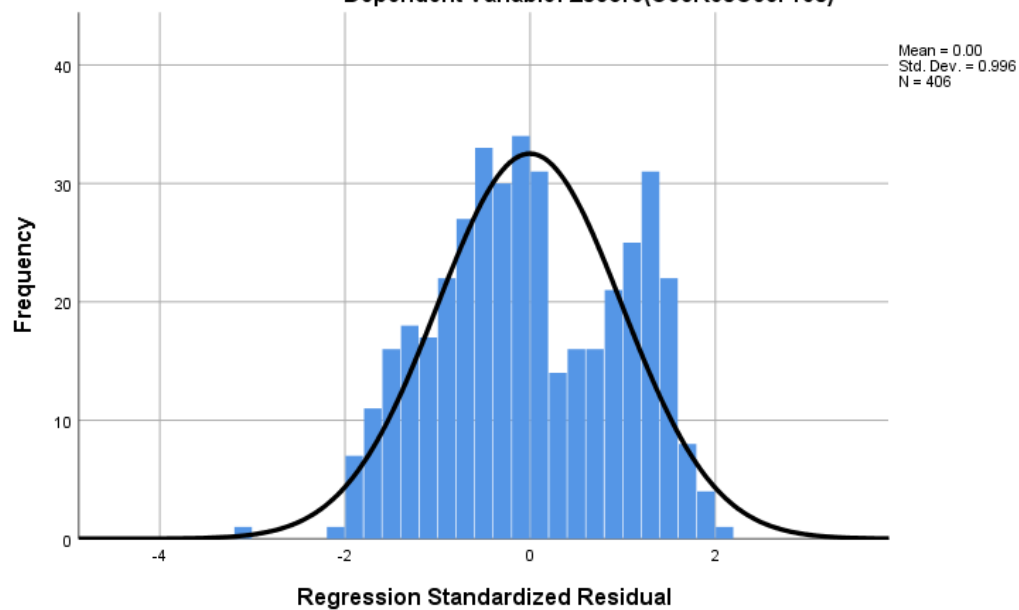
Scatterplot

Dependent Variable: Zscore: What is your current annual income (gross) from your paid work (including any bonuses)?

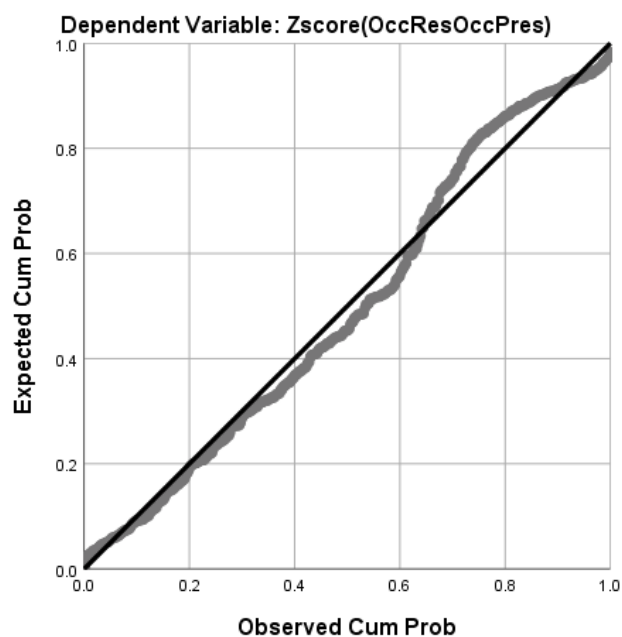


Histogram

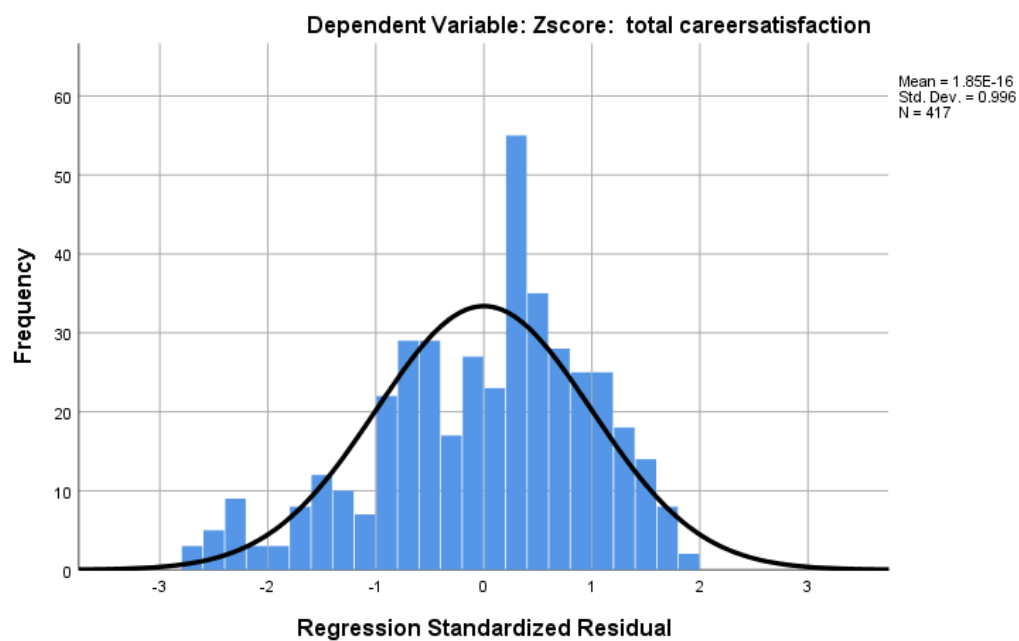
Dependent Variable: Zscore(OccResOccPres)



Normal P-P Plot of Regression Standardized Residual

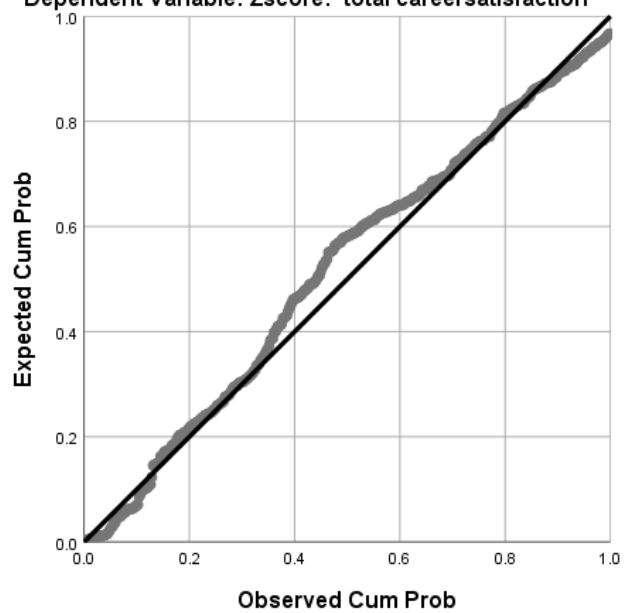


Histogram



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Zscore: total careersatisfaction



Scatterplot

Dependent Variable: Zscore: total careersatisfaction

