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Professional identification and career goals: goal setting in the role transition process

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PROFESSIONAL IDENTIFICATION AND CAREER GOALS: GOAL SETTING IN THE ROLE TRANSITION PROCESS

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CERTIFICATE OF APPROVAL

PH.D. THESIS

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ABSTRACT

The question of the development and content of personal career goals has received little attention and relatively little is known about the factors influencing career goals and when and how career goal setting occurs. Drawing from Ashforth's (2001) model of role transitions, I propose that professional identification is an important precursor to the development of career goals. The primary research objectives of this dissertation are to explore how identity motives drawn from experiences in graduate school relate to professional identification and how professional identification relates to both short- and long-term career goals for graduate students. I investigated my conceptual model and research hypotheses using a mixed-methods design.

The stage 1 qualitative analysis was used to (1) identify measures corresponding to Ashforth's (2001) four psychological motives (i.e., identity, control, meaning, and belonging) as antecedents of identification and (2) representative measures of career goals for graduate students. Forty-eight graduate students responded to open-ended questions about graduate school experiences, challenges, and career goals. Content analysis revealed measureable constructs for graduate students that align with Ashforth's control and belonging motives; graduate students elicited support from advisors (i.e., career and psychosocial mentoring), peers (i.e., peer support), and colleagues (i.e., networking) to provide a framework for identification with their new professional roles. In terms of outcome goal variables, graduate students' goals reflected two major content themes: extrinsic needs and status attainment.

The responses from the Stage 1 qualitative survey along with social identity theory (Tajfel & Turner, 1979) and the goal setting literature served as the basis for the development of the Stage 2 quantitative survey assessing both short-term and long-term career goals.

Based on a sample of 312 (short-term career goal model) and 243 (long-term career goal model) graduate students from 28 different universities in fields across both hard and social sciences, results show that one individual characteristic (need for identification) and actions of faculty advisors (psychosocial mentoring) are positively related to professional identification. Professional identification was related to goals in two main ways. First, higher professional identification positively related to short-term career goals which were high quality – that is, the goals were specific, difficult, and graduate students were committed to achieving them. Second, professional identification was positively related to both short-and long-term extrinsic goals, suggesting that graduate students who have internalized the goals and objectives of the profession see that a way to solidify their professional standing is to pursue a position that presents opportunities for high wages and external rewards.

Overall, the research findings have implications for theory related to identification motives and identification in role transition processes. The study also contributes to the literature on careers and goal setting, especially as it relates to professional workers. From a practical perspective, faculty advisors should emphasize positive psychosocial mentoring experiences such as counseling and friendship to create a sense of professional identity for students, and professional associations and faculty should consider that identification with a profession is primarily related to career goals associated with high salary attainment.

PUBLIC ABSTRACT

A defining characteristic of all professional workers is that they engage in some type of advanced education. Seen as the first step in socialization into a particular profession, graduate school experiences can have distinct effects on the way graduate students associate (i.e., identify) with their profession and the career goals that they set for themselves after graduation. This study examined how identity-related process experienced in graduate school shaped the development of professional identification and career goals for graduate students. I found that the extent that an individual develops a relationship with the profession appears to be partially determined by individual characteristics (need for identification) and external actors (psychosocial mentoring from faculty advisors). Professional identification was related to goals in two main ways. First, higher professional identification positively related to short-term career goals which were high quality – that is, the goals were specific, difficult, and graduate students were committed to achieving them. Second, professional identification was positively related to both short-and long-term extrinsic goals, suggesting that graduate students who have internalized the goals and objectives of the profession see that a way to solidify their professional standing is to pursue a position that presents opportunities for high wages and external rewards.

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CHAPTER 1. INTRODUCTION

The development and utility of specific, challenging goals within organizations is a well-established field (e.g., Locke, Shaw, Saari, & Latham, 1981). Yet, with few exceptions (e.g., Maier & Brunstein, 2001; Roberson, 1989, Roberson, Houston, & Diddams, 1989), the question of the development and content of personal career goals has received little attention in the goal setting literature. Overall, relatively little is known about the factors influencing career goals and when and how career goal setting occurs (Seo, Barrett, & Bartunek, 2004). This is an important issue that deserves attention because personal career goals offer a unique lens into how individuals conceptualize themselves and their relationship with work. For example, Locke (1976) and Allen and Meyer (1997) stated that employees are likely to develop positive attitudes toward work (e.g., job satisfaction and organizational commitment) if their job promotes the attainment of valued goals. Likewise, Ashforth and Mael (1989) argued that an individual may be highly dedicated to an organization "not because he or she perceives a shared destiny with the organization but because the organization is a convenient vehicle for personal career goals" (p. 23).

Broadly, career planning has been expressed as a form of goal setting (Gould, 1979), and career goals, more specifically, are defined as career-related outcomes, such as promotion, salary increase, or skill acquisition, that an employee desires to attain (Greenhaus, 1987). Despite the goal-related conceptualizations of career variables, however, applications of goal setting theory occur most often in settings where goals are externally assigned or determined by formal mechanisms (e.g., within organizations or assigned experimental conditions; Locke & Latham, 1990) and research on goal setting outside of organizational contexts is quite sparse. Many questions remain as to how individuals develop their own goals and intentions absent formal goal setting procedures, especially for career related decisions and goals.

Studying career goals also provides a broader perspective on the career management process by highlighting occupational phenomena that occur outside of the organization. Career management research has only recently shifted focus from intraorganizational career planning and development, such as advancement and movement within a specific organization, to broader extra-organizational career paths (i.e., protean, boundaryless; Eby, Butts, Lockwood, 2003). Both mobility opportunities and career goals are now more likely than ever to transcend organizational boundaries. This is an especially salient point for professional workers such as nurses, doctors, lawyers, and academics who are defined less by where they work and more by what they do (Pratt, Rockmann, & Kaufmann, 2006) and are, as such, less tied to a particular organization than to their professional role. Different role expectations and career goals for professional workers were first outlined in Gouldner's (1958) seminal work on cosmopolitans and locals. This framework highlighted the difference between cosmopolitans (i.e., professionals) who shape their career aspirations around professional expectations and values and locals who shape their career aspirations around expectations and values of an employing company. What remains to be seen then, is how identification with professional expectations and values influences how professional workers manage their careers and career goals.

Professionals workers are trained in graduate school in accordance with broader professional norms and values, and this stage is arguably one of the more important for developing professional identity and career goals (e.g., Austin, 2002; Pratt et al., 2006). The socialization that occurs in graduate school (Lui, Ngo, & Tsang, 2003) and the transition period from school to work (e.g., Ng & Feldman, 2007) seem to be a critical time for individuals to set individual career goals that will drive their choice in jobs and strategies over the course of their careers. Moreover, during the training and socialization process, the role expectations of the profession are likely to play a key role in influencing career goals. In fact, graduate school has been described as a process wherein students adopt the normative attitudes, values, culture, and most importantly, goals, of the profession (e.g., Schein, 1988; Van Maanen & Schein, 1979). As such, graduate school offers a unique context in which to examine professional identification and career goal setting as students enter the profession and form goals and strategies to guide their future careers.

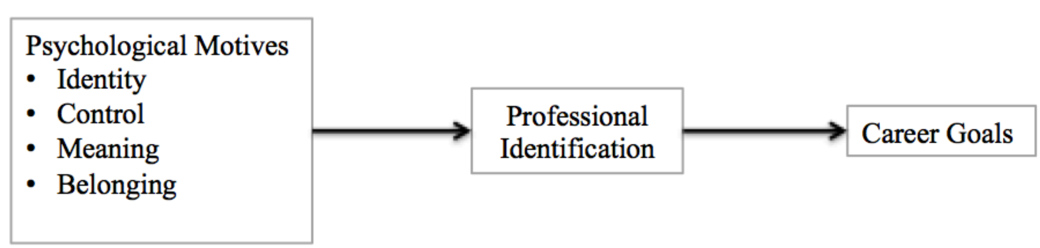
Identification has been conceptualized as the process by which the goals of the target (e.g., work group, organization, profession) and those of the individual become increasingly integrated or congruent (Hall et al, 1970; March & Simon, 1958; Simon, 1957; Tolman, 1943). For example, previous work has indicated that an important way of seeing oneself as integrated into an organization is to incorporate the values and goals of the organization into one's identity (Ashforth, 2001; Hall, Schneider, Nygren, 1970). In the current study I focus on professional identification in particular, which is the extent that professional employees experience a perceived oneness or bond with their profession (Hekman, Steensma, Bigley, Hereford, 2009a).

In his theory of role transitions in organizations, Ashforth (2001) proposes a model of identification wherein identity-related needs and motivations lead to identification with a role.

Ashforth's model identifies four psychological motives which arise from a need to transition into a new role: *identity* (i.e., self-referent processes such as self-expression and self-enhancement), *meaning* (sensemaking and purpose), *control* (mastery and influence), and *belonging* (attachment). The motives represent ways in which people learn about new roles and decide the extent to which they identify, or not, with the role. The more that the motives are met, the greater identification with the role. Identification, in turn, leads to role-specific expectations and outcomes. In the current study, role-specific outcomes are defined in terms of career goals. The model is summarized in Figure 1.

In sum, the purpose of this study is twofold. First, I will examine several variables corresponding to Ashforth's (2001) four psychological motives as antecedents of professional identification. Second, I will examine whether professional identification is related to two types of career goals: goal quality and goal content. Goal quality is represented by goals that reflect key features of goal setting theory; that is, they are difficult, specific, and individuals are committed to them (Locke & Latham, 1990). Goal content refers to the extrinsic or status content of goals.

Figure 1. Theoretical Model



This study contributes to the limited work assessing the importance of identity development in role transition processes (Ashforth, 2001) by defining specific constructs which align with Ashforth's psychological motives for role identification. I also contribute to research on professional identification by incorporating concepts from social identity theory to explain why individual differences and experiences are related to professional identification and positioning goal setting as an outcome of professional identification.

This study contributes to goal setting theory by examining the content and characteristics of goals in the career context. Career goal setting is often done absent formal goal setting mechanisms, and this context has received sparse attention in the both goal setting literature and in the careers literature. Moreover, the career context for goal setting is a limited body of work which largely addresses the content of individual career goals in a tangential fashion (e.g., assessing distance from career goals, goal importance, goal progress; Maier & Brunstein, 2001; Noe, 1996; Noe, Noe, & Bachhuber, 1990). I expand this research by assessing how professional identification relates to goal quality and goal content.

The remainder of this dissertation includes the following chapters. Chapter 2 is a review of the literature related to goal setting and professional identification. First, I present a framework for goal setting as it applies to career goals. Second, I introduce topics related to professional identification by providing an overview of identify theories as they relate Ashforth's (2001) model of role transitions and identification and then I provide a brief explanation of the relationship between identification and professional socialization processes. Chapter 3 describes the methods and results of a pilot study, which was a qualitative exploration of career goals for graduate students. Chapter 4 uses theories presented in Chapter 2 and findings from the pilot study to develop hypotheses for the current study. Next, in Chapter 5, I present the methods. Chapter 6 reports the results and

Chapter 7 provides a discussion of the study's findings. All of the survey items are presented in the Appendix.

CHAPTER 2. LITERATURE REVIEW

In this chapter, I provide a brief review of the goal setting literature as it relates to career goals. I then review identity theories and describe how they are incorporated into socialization and role entry processes for professional workers.

Theory and Research Related To Careers Goals and Goal Setting

Goal Setting

It is a well-established finding that specific, challenging goals positively related to task performance so long as the individual is committed to the goal and has the requisite ability to attain it (e.g., Locke & Latham, 1990; Locke, Shaw, Saari, & Latham, 1981). The main logic behind this relationship is that goals influence behavior by directing attention, stimulating and maintaining effort, and facilitating the development of strategies for goal attainment (Locke & Latham, 1990). However, most of the work surrounding goal setting at work focuses on task performance as a result of externally assigned goals, or goals that are created through some formal mechanism (e.g., Latham & Baldes, 1975; Smith, Locke, & Barry, 1990). Further exploration of goal setting has extended to participation in goal setting initiatives (e.g., Dossett, Latham, & Mitchell, 1979; Erez, 1986; Erez & Kanfer, 1983; Latham & Saari, 1979a, 1979b), but the overarching rationale is, again, that goals are the result of top-down directives that motivate action toward organizational or work-defined tasks.

In the absence of formal constraints, however, it seems that individuals will still develop their own performance goals and intentions. Yet since the surge of goal setting research after Lock and Latham's (1990) seminal work, little attention had been paid to the natural process of goal setting; the way individuals set specific task, performance, and work-related goals for themselves. Locke and Latham (1990) did identify the concept of a "personal goal," but that goal was positioned as a mediator between assigned goals and task performance. Locke and Latham (1990) conceptualized the personal goal as a form of goal commitment; that is, successful task performance was dependent on the personal goal matching the assigned goal.

The idea of a personal goal was expanded beyond the definition as proposed by Locke and Latham (1990) by examining the way that personal goals apply to subjective well-being and life satisfaction (e.g., Brunstein, 1993; Brunstein, Schultheiss, & Maier, 1998). Bernstein and colleagues define personal goals as a future-oriented representation of what an individual strives for and what they seek to attain in various life domains (Brunstein, Dangelmayer, & Schultheiss, 1996; Maier & Brunstein, 2001). According to this conceptualization, people shape their own destinies by construing personally meaningful objectives and then directing their activities toward the attainment of those objectives (Brunstein & Maier, 1996). However, the focus of the research on personal goals to date has focused only on attitudinal outcomes, rather than the creation, of such goals. For example, one study asked individuals to appraise their commitment, attainability, and progress toward personal goals. The authors found that goal attainability and commitment interacted to predict both job satisfaction and organizational commitment for newcomers (Maier & Brunstein, 2001).

In sum, goal setting theory and research focuses on the creation of work-related goals, but in formal settings where goals are assigned or created in a participative manner. Where personal goals have been examined in a work context, they are positioned as antecedents of work attitudes. What is not clear from the literature is what drives the creation of individual, personal goals absent formal goal setting processes. As noted by Seo, Barrett, and Bartunek (2004), "Comparatively little is known about the actual processes by which individuals set their own goals and when and how this occurs in workplaces" (p. 427). The present study uses a goal setting lens to examine the creation of personal, career related goals. The rationale is that personal career goals operate in a similar manner to other work goals. That is, they lead to allocation or reallocation of attention, time, and energy toward goal-relevant behavior. The difference though, is that personal career goals are based on personal expectations and examination of what is of fundamental import in one's life (Seo et al., 2004), such as professional norms and values, rather than formally assigned initiatives.

Goals and Careers

Although they are the focus of relatively few empirical studies, goals and goal setting are an integral part of many models of careers. For example, in Greenhaus' (1987) model of career management, goal setting facilitates the development and implementation of a career strategy, which produces progress toward stated goals. He defines career goals as "a desired career related outcome that a person intends to attain" (p. 53). London's (1983) theory of career motivation also references goal setting. In this framework, career insight is defined as the realism and clarity of an individual's career goals, and setting and trying to accomplish career goals is part of overall career motivation. Finally, Gould's (1979) model of career planning suggests that planning career goals leads to implementation and attainment of career goals. Within each framework, in general, the advantage of establishing a career goal is that a person can direct his or her efforts in a relatively focused manner with a clear plan of action. However, as Greenhaus (2010) notes, "although many writers on career management discuss the virtues of goal setting, there is little research in the area of career goals" (p. 54).

One theory and related research stream, social cognitive career theory (SCCT) explicitly outlines antecedents and outcomes of individual career goals (Lent & Brown, 1996; Lent et al., 2002). The theory incorporates three central variables, self-efficacy, outcome expectations, and goals, from general social cognitive theory (Bandura, 1986) to explain the process through which people guide their own career and academic development. Within SCCT, self-efficacy and work values jointly promote particular career-related goals. Studies have generally provided support for SCCT's model; yet, most of the research has focused on self-efficacy and outcome expectations as they relate to interest in a particular field. For example, Segal, Borgia, and Shoenfeld (2002) found that students with higher entrepreneurial self-efficacy and higher self-employment outcome expectations had higher intentions to become self-employed. Other studies have shown that self-efficacy is related to students' interests in particular math, science, and engineering fields (Diegelman & Subich, 2001; Lent, Larkin, & Brown, 1989; Navarro, Flores, Worthington, 2007). Several studies have also shown that self-efficacy and outcome expectations are related to academic performance and persistence (Hackett, Betz, Casas, & Rocha-Singh, 1992; Lent, Brown, & Larkin, 1984; Schaefers, Epperson, & Nauta, 1997).

However, there has been little study of goals outside of intentions to enter a certain field or a certain area of study. Goals have been operationalized as persistence in an engineering degree (Lent, Brown, Schmidt, Brenner, Lyons, & Treistman, 2003), intentions to persist in the computing discipline (Lent, Lopez, Lopez, & Sheu, 2008), and interest pursuing a psychology degree (Diegelman & Subich, 2001). Given that career goals are generally framed as career-related outcomes that an employee desires to attain (e.g., a particular job, salary increase, or skill acquisition; Greenhaus, 1987) several questions still remain as to how more specific types of career goals fit within the overall SCCT model. In the current study, I will rely on social identity theory to examine career goals. While my model is in some ways consistent with SCCT theory because it incorporates self-efficacy in the formation of career goals, it goes beyond SCCT by examining a broader range of constructs that flow from SIT theory.

Summary of Goals and Careers

Research in both goal setting (e.g., Locke & Latham, 1990) and personal goals (Brunstein, 1993; Brunstein et al., 1999) has demonstrated that goals are related to positive, valued outcomes at work. And, although the concept of career goals is present in many models of career management, the formation of career goals is often not studied explicitly. Thus there is little information about how individuals set career goals and what factors may affect the formation of such goals. In the current study I argue that identification with the profession shapes the career goals of graduate students in professional programs. The following sections move from goal-related topics to identification-related topics.

Identity Theories

Several theories use identity-based approaches to define how individuals understand and view themselves within social contexts. That is, the theories propose specific processes and outcomes that occur as individuals compare and contrast themselves to others; the most notable outcome being the sense of self that arises out of such comparisons. The construct of identity is most often associated with social identity theory (SIT) and its sister approach self-categorization theory (SCT; which are often combined into a single theoretical framework), and identity theory (IT). Below I offer a brief description and comparison of SIT/SCT and identity theory followed by a discussion of other theories which also incorporate relevant identity-related concepts: role transitions and socialization.

Social Identity Theory and Self-Categorization Theory

According to SIT, an individual's self-concept is based on perceived group membership within different social categories (Tajfel & Turner, 1979). A social group is a set of individuals who share prototypical characteristics or hold a common view of themselves as members of the same social category (Tajfel & Turner, 1985). Through a process of social comparison, an individual differentiates between in-group members, or those similar to the self, and out-group members, or those different from the self. Thus, social identification occurs through the perception of oneness or belongingness to a particular group. The main process is categorization into in-groups and out-groups (Hogg, Terry, & White, 1995).

As first introduced by Tajfel, SIT posits that identity is "that part of an individual's self-concept which derives from his knowledge of his membership of a social group together with the value and emotional significance attached to that membership" (1978, p. 63). In other words, social identity is part of a person's sense of 'who they are' associated with any internalized group membership (see also Ellemers, Kortekaas, & Ouwerkerk, 1999). As such, SIT includes the emotional, evaluative (i.e., self-esteem), and psychological (i.e., commitment) correlates of in-group classification. This can be distinguished from the notion of personal identity which refers to self-knowledge that derives from an individual's unique attributes (Turner, 1982).

SIT was originally used as a framework for understanding different inter-group processes and emerged from a series of studies showing that when participants categorized themselves as members of a group this gave their behavior a distinct meaning (Tajfel, &

Turner, 1979). Different behaviors were directed toward in-group and out-group members based on power and status differences and the ability and motivation to move from one group to another (Tajfel & Turner, 1979). In striving for a positive and secure self-concept, group members are motivated to act and think in ways that emphasize the positive distinctiveness between one's group and relevant out-groups (Tajfel, 1978).

The original theory was not intended to go beyond basic group categorization processes, but was expanded by Turner and his colleagues in the mid 1980s into SCT (Turner, 1982, 1985; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987; Turner, Oakes, Haslam, & McGarty, 1994). SCT built upon SIT to create a more general account of self and group identity based on emphasis of the cognitive aspects of intragroup as well as intergroup processes. Part of Turner's contribution was to specify a psychological process associated with the 'switching on' of social identity (Haslam & Ellemers, 2005). This process is referred to as *depersonalization*, a cognitive process which refers to seeing oneself as an embodiment of the in-group prototype instead of as a unique individual (Turner, 1985, 1987). When a category becomes salient (i.e., activation of a social identity), people see themselves and others as examples of the group prototype, rather than as individuals.

Many of the outcomes in SCT are a consequence of the depersonalization process that occurs when an identity is activated. For example, to the extent that the in-group category is positively valued, depersonalization will increase mutual attraction between members and enhance self-esteem among the in-group members (Turner 1987). This mutual attraction and liking is termed group cohesion (Hogg, 1987). Depersonalization is also the basic process underlying group phenomena such as social stereotyping, ethnocentrism, cooperation and altruism, emotional contagion, and collective action (Turner, 1985, 1987).

In places where behavioral outcomes are addressed in SIT/SCT, they arise from two processes. First, behavior would depend on a person perceiving prototypical behavior and then acting in accordance with these group norms *(*Reicher 1996; Terry & Hogg 1996). Second, behavior is driven by a need to increase self-esteem. That is, when a social identity is activated, people will act in ways which increase the evaluation of the in-group relative to the out-group, thus enhancing their own evaluation as a group member (Turner, 1987). Group members act to match their behavior to the standards relevant to the social identity to confirm and enhance their social identification with the group. Other similar motives which have been suggested more recently include a collective self-esteem motive (Crocker & Luhtanen 1990), a self-knowledge motive, a self-consistency motive, a self-efficacy motive (Abrams & Hogg, 1990), and a self-regulation motive (Abrams 1994).

Identity Theory: Structural Identity Theory and Identity Control Theory

In IT, the categorization of one's identity is based on the occupation of a specific role. The meanings, expectations, and performance of that role are then incorporated into a view of the self (Burke & Tully, 1977; Thoits, 1986). A self, accordingly, is composed of multiple identities (i.e., role identities), and both the salience and commitment of particular roles account for the impact of role identities on social behavior. Although IT originally was formulated by Stryker (Stryker 1968, 1987; Stryker & Serpe 1982), the term identity theory is now used more widely and applied to a number of related theoretical works that reference links between a multifaceted notion of self and the wider social structure (e.g., Burke 1980; McCall & Simmons 1978).

IT argues that one's role identities are arranged in a hierarchy of salience (Stryker, 1987) which represents the "readiness to act out an identity" (Stryker & Serpe, 1994, p. 17).

Thus, two people who share similar roles may act quite differently because of different levels of salience associated with certain role identities. According to the theory, the salience of a particular identity will be determined by the person's commitment to that role. Commitment is defined as the "degree to which the individual's relationships to particular others are dependent on being a given kind of person" (Stryker & Stratham 1985, p. 345). As such, role commitment reflects the perception of judgment as to whether significant others want the person to occupy a particular role position. Commitment to a particular role identity is high if people perceive that many of their important social relationships are based on the occupancy of a role and that there is a value associated with the particular role. In other words, when people from valued relationships place value on a role, the more likely the person will strive to affirm the identity (Burke & Reitzes, 1991).

In IT, activation of an identity leads to the *self-verification process* which underlies such behavioral consequences as role-taking, role-making, conflict, and group formation as the person acts to portray the identity (Burke & Cast 1997; Burke & Stets 1999). Self-verification is the cognitive process in which the self is viewed in reference to a role that is representative of the identity standard (Burke 1991; McCall & Simmons 1978). The basic premise here is that people act to keep perceptions of themselves in the situation consistent with their identity standard. Like social identity theory, recent extensions of identity theory have added the motivational elements of self-consistency and self-regulation (e.g. Burke 1991; Burke & Stets 1999). Here, individuals are motivated to act by modifying the situation so that perceptions of the self are consistent with the standard in spite of situational disturbances caused by others, prior actions of the self, or general situational influences (Stets & Burke, 2000)

Comparison of SIT/SCT and Identity Theory

Both identity theories are based on the conceptualization that an individual's self-concept is based on social comparisons. This process is called *self-categorization* in SIT/SCT (Turner et al., 1987) and *identification* in IT (McCall & Simmons, 1978). Each theory also acknowledges that the self is differentiated into multiple, dynamic identities that inform individual behavior. Even though the question of *how* one classifies oneself is different depending on the theory (group versus role), both theories are based on the premise that individuals view themselves in terms of social categories (McCall & Simmons 1978; Stryker 1987; Turner 1985). In terms of behavioral outcomes, in SIT/SCT, behavior depends upon a person first assessing normative aspects of group membership in the prototype and then, second, acting in accordance with these norms (Reicher, 1987; Terry & Hogg 1996). This is similar to IT (Stryker, 1987) in which a person acts in accordance with the norms and expectations for the role associated with the identity standard.

Notable differences are the different bases of identity; SIT uses *categories or groups* while IT is based on *roles.* Accordingly, the meaning of membership in SIT relates to *who you are* while the meaning of membership in identity theory relates to *what you do* (Stets & Burke, 2000). For example, SIT would emphasize one's identification or association with a particular group, such as "females" or "doctors" as social groups. In contrast, IT would examine roles or behaviors one enacts as either a woman or a doctor. Other differences relate to the activation of identities and the concept of *salience*. SIT discusses salience as the activation of an identity in a situation while identity theory treats salience and activation separately.

Another difference is in the core processes that result from identity-related processes. Cognitive processes in SIT/SCT center around *depersonalization* while identity theory uses *self-verification.* Motivational process in SIT center around *self-esteem* (i.e., group memberships are often a source of self-esteem), while IT uses *self-efficacy* (i.e., for a salient role identity, evaluation of role performance will influence feelings of self-efficacy; Stets & Burke, 2000). Last, SIT/SCT concentrates on the causes and consequences of identifying with a social group or category while identity theory focuses on the causes and consequences of identifying with a particular role.

Ashforth's (2001) Model of Role Transitions

In terms of newcomer identity, Ashforth (2001) developed a model of role transitions based on both SIT/SCT and IT. The key implication of identity work for role transitions is that, if one identifies with separate roles, then to exit one role and enter another is to switch personas. Drawing from IT, Ashforth (2001) proposed that to the extent a role cues or connotes a certain persona, one can refer to a role-based identity, or role identity. He defines role identities as "socially constructed definitions of self-in-role (this is who a role occupant is)" which "anchor or ground self-conceptions in social domains" (p.27).

However, Ashforth (2001) expands on the basic tenets of IT by recognizing three additional factors. First, the features of role identities are not all equally weighted; they consist of both core/central features and peripheral features. Second, role identities can vary from strong to weak. And third, it is possible that a given role occupant may or may not actually accept a role identity as defining him/herself (i.e., "This is who I am"). In this case, it is possible for an individual to occupy and enact a role without actually regarding it as self-defining. At this point Ashforth (2001) draws on SIT to define *role identification*, a specific form of social identification which is said to occur "if the individual indeed comes to define him/herself in terms of the role identity" (p.28).

Finally, of particular relevance to role transitions is the idea from SIT that social/role identities are relational and comparative and that individuals are motivated to hold positive identities to enhance feelings of self-esteem. However, a variety of theorists have included a wider variety of self-oriented motives thought to influence identification with certain roles (e.g., Ashforth, 2001; Banaji & Prentice, 1994; Dutton, Dukerich & Harquail, 1994; Pratt, 1998). Drawing on previous work, Ashforth proposes four categories of psychological motivations related to role identification: identity (i.e., self-referent processes such as self-expression and self-enhancement), meaning: (sensemaking and purpose), control (mastery and influence), and belonging (attachment). He proposes that each type of psychological motive arises from a need to transition into a new role; the motives are ways that people learn about new roles and decide the extent to which they identify, or not, with the role.

In transitioning into a role, the more fulfilling the role, the more likely that one will internalize the role identity as a partial definition of self, and the more likely one will be to faithfully enact that identity. In contrast, if the role does not meet the motives for identity, meaning, control and belonging, they may *disidentify* with certain features that they find objectionable. Disidentification may lead to an overall sense of ambivalence about the role or features of the role (Ashforth, 2001, p. 86)

Professional Identification

Professional identification refers to the extent that a professional employee experiences a perceived oneness or bond with his or her profession (Hekman et al., 2009a). Professional identification is related to key tenets of both SIT and IT in that one may identify with the professional group but also define one's self in terms of the role and nature of the work performed in that role. When viewed in terms of SIT, the profession represents the relevant in-group and professionals derive their self-concept from knowledge of this membership along with the value and emotional significance attached to that membership. In terms of IT, professional identification would relate to the roles or behaviors one enacts as a member of the profession and the meanings, expectations, and performance of that role are then incorporated into a view of the self. Both SIT and IT, then, provide perspectives as to how individuals would experience a oneness or bond with their profession.

Professional workers represent a unique and growing segment of the workforce and are considered distinct in that they identify with groups that transcend organizational boundaries (Hogg & Terry, 2000; Wallace, 1995). Professionals are distinguished from non-professionals based on several characteristics. First, they are often defined more by "what they do" than by "where they work" (Pratt et al., 2006). For example, doctors are often defined by the type of work that they do (e.g., surgeon, cardiologist, general practitioner) rather than the hospital in which they practice. Other defining characteristics of professionals include skills that are based on theoretical knowledge, lengthy periods of training and education, recognized status, intensive socialization into the values of a professional community, and professional associations with specific qualifications for membership (Hickson & Thomas, 1969). The distinction between professional and non-professional workers is not a dichotomy; rather, professionals are identified on a "professionalism" scale as indicated by the adoption of the above characteristics (Hickson & Thomas, 1969; Johnson, Morgeson, Ilgen, Meyer, & Loyd, 2006). Although the characteristics defining professional workers exist on a continuum, several groups are consistently cited and studied as the embodiment of a professional worker: doctors (e.g., Hekman, Bigley, Steensma, & Hereford, 2009a; Heckman et al., 2009b), lawyers (e.g., Loi, Hang-yue, & Foley, 2004), architects (e.g. Vough, 2012), accountants (e.g., Bimrose & Hearne, 2012), academics (e.g., Henderson & Bradley, 2008), and journalists (Russo, 1998).

Professional identification differs from the prominent paradigm of organizational identification based on the characteristics of the workers and the focus of the relevant in-group—that of the profession as a whole. The primary focus of research in this area has primarily been on the nature of the interplay between professional and organizational identification (e.g. Johnson et al., 2006; Pratt & Foreman, 2000) and on the differing importance and influence of the two (Bamber & Iyer, 2002; Johnson, et al., 2006; Lee, Carswell, & Allen, 2000; Settles, 2004; Wallace, 1995). One difference between organizational identification and professional identification, however, is that professional identity likely begins to form in school (e.g., Pratt et al., 2006). This means that employees often have a longer period of time in which to adopt the characteristics of a specific profession and that professionals likely identify with a profession to some degree regardless of the particular organization in which they work.

The development of professional identification in graduate school can be framed in terms of the socialization process wherein graduate school is a means of socializing individuals into a particular profession. The next section reviews socialization as it applies to role entry and professional workers.

Socialization and Role Entry

Organizational socialization is the process through which new employees move from being organizational outsiders to organizational insiders as they adjust to their new roles within organizations (Bauer & Erdogan 2011; Fisher, 1986; Louis 1980; Van Maanen & Schein, 1979). Stage models of socialization tend to recognize three distinct stages: (1) anticipatory socialization, where individuals prepare for role entry, (2) encounter or accommodation, where individuals actually enter and confront organizational realities, and (3) metamorphosis, role management, or mutual acceptance, where individuals adapt to and modify their role (e.g., Bauer & Green, 1998; Feldman, 1976; Schein, 1978; Van Maanen, 1975).

The current paper focuses on the second stage of the socialization process although the first stage of the socialization process is included to some degree in the assessment of met expectations, which is used as a control variable in model testing. Expectations have been conceptualized by various authors as the process of preparatory learning, choice making, value assuming, and assessing reality congruence between the current role and expected roles (Feldman, 1976; Merton, 1957; Wheeler, 1966). When roles are perceived as socially desirable, voluntary, and irreversible, individuals are more likely to enter with high expectations (Ashforth, 2001). However, Ashforth cautioned that these positive expectations could be double-edged. That is, while they make the role, organization, or profession attractive, if those expectations are not met, they may ultimately undermine identification with the role.

Ashforth's (2001) model of role entry focuses primarily on the second stage of socialization, encounter/accommodation. He proposes that role entry is about how newcomers navigate new roles to realize their motives for identity, meaning, control, and belonging. It is through role learning, role innovation, and personal change that individuals "enact and may come to internalize a role identity that reflects a meld of insititutionalized expectations and idiosyncratic refinements" (Ashforth, 2001; p. 222). In the current study, the focus of the transition process is experiences in graduate school, the setting for of the second stage professional socialization.

The formal preparation for professionals includes some type of graduate education wherein departments induct graduate students into the discipline by transmitting skills and knowledge, shaping values and attitudes, and assisting in pursuit of professional roles (Corcoran & Clark, 1984). Even though the actual processes vary across disciplines and departments, the basic forms and functions of graduate education are similar across a wide range of disciplines. Adapting the basic definition of organizational socialization (Ellis, Bauer, & Erdogan, 2014), professional socialization can be defined as the process through which newcomers acquire the knowledge, skills related to their profession, make connections with others in the profession, and garner insight into the culture, processes, and people in the profession (Cohen, 1981; Corcoran & Clark, 1984). The prominent results of the professional socialization process are that novices adopt the values the profession holds in high esteem, acts according to those values, and then develop an individual self concept such that a "professional identity" develops (Cohen, 1981; Toit, 1995).

Much of the work on professional socialization has been done in the health sciences field, especially concerning nurses (Toit, 1995). Here the studies indicate that the decision to enter the nursing field is related to individuals' self-concepts, specifically their perceptions of their selves as they fit with their own perceptions of what it means to be a nurse (Andersson, 1993; Dombeck, 2003). Moreover, studies have shown that nurses who are judged to be highly socialized in graduate school (i.e., those whose identities aligned most with professional standards) also exhibit a strong service orientation and tend to view their work as a calling (Price, 2009; Toit, 1995).

Fewer studies have examined the effect of professional socialization in other fields. Pratt and colleagues (2006) examined the construction of a professional identity across six years of graduate school for doctors. They found that mismatches between what the students did and their work (i.e., work-identity integrity violations) were the main impetus for change and formation of professional identities. In addition, Clark and Corcoran (1984, 1986) have examined the professional socialization of academics in graduate school and found that role models and mentors played an important role in the professional socialization process. Overall, experiences in graduate school have been shown to relate to individuals' views of the profession, their self-identification with the professional roles, and their choices about jobs within the profession (Price, 2009). While professional socialization does continue as a career-long, iterative process (MacIntosh, 2003), it appears that early socialization experiences have a strong influence on individual's identification and careers.

In the next chapter I present the methods and findings from the pilot study which addresses two primary questions surrounding identity motives as they relate to common challenges and facilitators experienced by graduate students and the content of graduate students' career goals.

CHAPTER 3. PILOT STUDY

Overview and Purpose

The purpose of the pilot study was to identify measurable constructs reflecting the various psychological motives in Ashforth's model of role transitions in organizations (2001) and related theoretical frameworks (i.e., SIT and IT). Ashforth's model identifies four psychological motives which arise from a need to transition into a new role: *identity* (i.e., self-referent processes such as self-expression and self-enhancement), *meaning* (sensemaking and purpose), *control* (mastery and influence), and *belonging* (attachment). The motives represent ways in which people learn about new roles and decide the extent to which they identify, or not, with the role. I was specifically interested in professional identification and how that may impact the types of career goals graduate students might have. In terms of outcomes of identification, I wanted to focus on the setting of short- and long-term career goals as ways that graduate students enact the professional role identity. For Ashforth's meaning, control, and belonging dimensions, I wanted to examine how graduate students engaged in sensemaking and purpose in their new roles and what types of behaviors and facilitators (i.e., resources and social support) help graduate students maintain control and create a sense of belonging. Last, I asked about challenges faced in graduate school as these might inhibit motives related to identity, control, meaning, and belonging.

Methods

Sample and Procedure

A link to a qualitative survey was posted on the graduate college website and distributed in an email from the graduate program coordinators from three departments at a large Midwestern university. Students who were not currently enrolled in a graduate program were excluded per their self-identified enrollment status. The data collection was carried out from February to March 2015.

The survey consisted of open-ended questions about short-term career goals, long-term career goals, graduate school challenges, and facilitators. Short-term career goals were defined as goals one hoped to achieve after graduation while long-term career goals were defined as goals one hoped to achieve "someday in your work." Graduate school challenges were defined as "*ongoing events* which make it difficult to obtain your goals." I provided a variety of sub-dimensions to list challenges, including: faculty-related challenges, peer or classmate-related challenges, department-related challenges, and other challenges not covered by the above categories such as relocation and cultural issues. Last, graduate school facilitators were defined as "material resources and/or social support that have helped you deal with your school-related challenges or have helped you achieve your goals."

Although 53 individuals responded to the questionnaire invitation, five were eliminated because they did not consent or were not graduate students. Of the remaining 48 individuals that qualified, 37 completed the entire questionnaire, including the demographic information that was on the final page. Because the link to the survey was available to an unknown number of individuals, it is not possible to calculate the response rate.

General demographics. The average age of the respondents was 29.3 years. About half of the respondents were female (48.6%), and the majority were single (62.2%). Most respondents did not have children (83.8%), while a few had one (6.3%) or two (8.1%) children. The majority of the sample was White/Caucasian (86%), while the remaining respondents identified as Asian (6%), Indian (5%), and other (3%). International students represented 16.7% of the sample. Slightly more than half of respondents had previous professional work experience (56.3%); the mean length of experience was 5.98 years and ranged from 1-20 years.

Graduate program demographics. Respondents were pursing degrees in three major fields: Arts or Humanities (20.8%), Business/Economics (39.6%), and Engineering or Computer Science (39.6%). The majority of the sample was pursuing a PhD (87.5%), while the remaining respondents were pursuing a MA/MS (10.4%) or MFA (2.1%). The majority of respondents were in 5-year programs (59.6%), while smaller numbers were in 2-year (8.5%), 3-year (4.3%), 4-year (8.5%), 6-year (12.8%), or 7-year programs (6.4%). The average time in the current program was 2.9 years and ranged from several months to nine years. The majority of students self-reported that they were on track to finish on time (83.3%), while the remaining eight students were not on track (16.7%) due to both school related and personal factors.

In terms of funding, respondents generally received funding from one (52.1%) or two (35.4%) sources. Only one respondent had no funding (2.1%), while five respondents had three sources (10.4%). TA support was the most common source of funding (68.8%), followed by RA support (47.9%), grants (20.8%), and other funding (16.7%), which included university and outside (e.g., department of defense and foreign country) fellowships.

Data Analysis and Results

The first stage of data analysis involved reading through each set of question responses and developing a set of emergent categories. I based the initial coding categories on the survey structure such that each emergent category was classified under the category (e.g., challenges) and sub-category (e.g., advisor-related). The second stage of data analysis occurred after the categories were developed for goals, challenges, and facilitators and consisted of two researchers independently coding all of the responses. Cohen's kappa between coders was .83 for goals, .48[1] for challenges, and .87 for facilitators. Cases of disagreement were resolved through joint discussion that clarified existing categories or led to the creation of new categories.

Although the creation of categories that aligned with the survey structure was the initial strategy, as we moved beyond the coding and into the construct identification process, it became clear that the existing categories could be collapsed and rearranged into more streamlined groups. In particular, the goals seemed to reflect two major themes: intrinsic/extrinsic and status attainment. After consulting several relevant literatures (Amabile, 1993; Deci & Ryan, 2000; Dweck, 1986; Hackman & Oldham, 1980; Seibert et al., 2013), we collapsed the larger number of initial categories with similar themes into a broader framework consistent with existing theoretical models. The decisions about which categories would be combined were the result of multiple discussions and review between both coders and represent the final coding strategy.

Career Goals

The survey asked respondents to list both short-term and long-term career goals. Across both goals, there were a total of 92 different career goals listed; some respondents listed more than one goal. The researchers initially content analyzed the 92 career goals and categorized them into broad themes. Two themes emerged in the short-term goal category: specific job/position (32 responses) and publishing in academic journals (7 responses). Five themes emerged from the long-term goal category: specific job/position (14 responses),

[1] This value generally indicates low to moderate agreement, yet the value is also lowered by the large number of initial categories (27) and the small number of ratings within each category (from 4-12 comments).

getting tenure (13 responses), having an impact (10 responses), new ideas/creative contribution (9 responses), and financial security (2 responses). Further examination of these themes strongly suggested that both short-term and long-term goals could be subsumed by two larger overarching themes corresponding to previous motivation and career goals literature: extrinsic versus intrinsic nature of the career goal and status/prestige of the goal (e.g., Amabile, 1993; Deci & Ryan, 2000; DeShon, & Gillespie, 2005; Dweck, 1986).

Intrinsic goals are generally characterized as those that satisfy psychological needs for autonomy, relatedness, competence, and growth (e.g., acceptance, learning, affiliation; Deci and Ryan, 1985) while extrinsic goals are focused on obtaining rewards and positive evaluations from others (e.g., financial success, popularity; Deci and Ryan, 1985; Kasser & Ryan, 1996). Status goals are defined as those showing a desire for social visibility and prestige within a social group and concern for an image of social standing (DeShon & Gillespie, 2005; Levy, Kaplan, & Patrick, 2004). Although status goals may be viewed as a specific type of extrinsic goal, the emphasis on status is an important feature in the rationale for SCT (Tajfel & Turner, 1979; Turner et al., 1987) as status attainment within and between groups is a primary motivation for identification according to the theory. Accordingly, I chose to maintain goal status as a separate dimension of career goals aside from intrinsic and extrinsic goals. Based on these categories, the two researchers subsequently recoded the goals based on whether it (1) reflected intrinsic versus extrinsic themes and (2) was an indication of desire for achieving high social status/prestige (yes or no).

Intrinsic/Extrinsic Goals. Of the total goal statements provided by respondents, 62 were related to extrinsic motivation. For short-term goals, 36 comments (88%) were extrinsic. Examples include statements such as “secure a full-time teaching position” and “try to publish 5 papers." For long-term goals, 26 comments (65%) were extrinsic. Examples include statements such as "obtain tenure and a chaired position" and "a career position as a consulting engineer."

The remaining 19 statements were categorized as representing intrinsic motivation. For short-term goals, 5 comments (12%) were intrinsic. Examples include statements such as "I would like to get a job that allows me to live a comfortable life" and "I would like to… have more control in what I do." For long-term goals, 14 comments (35%) were intrinsic. Examples include statements such as "be beneficial to society through my teaching of students" and "work on a project that has merit and can do general good, rather than inconsequential research that few will benefit from."

Status Goals. Of the total goal statements provided by respondents, 17 (24%) indicated some type of status achievement. For short-term goals 9 comments (26%) indicated status as reflected by working at research universities and publishing in high-status journals. Examples include "place at a well-ranked tier 1 research institution" and "publish multiple articles in top-tier journals." For long-term goals, 8 comments (23%) indicated high-status goals. Examples include "achieve tenure at a well-ranked university," "editorial board member of a top journal in my field," and "CEO of a well organized and internationally well-known company."

Graduate School Challenges & Facilitators

I engaged in a similar content analysis strategy for graduate school challenges and facilitators. Graduate school challenges were defined as "ongoing events that make it difficult to achieve career goals." Respondents were asked to provide specific examples of graduate school challenges that were related to advisors, department and faculty, peers, and personal categories. Graduate school facilitators were defined as "material resources and/or social support that have helped you deal with your school-related challenges or have helped you achieve your goals."

The initial coding processes resulted in 25 categories for graduate school challenges and 7 categories for graduate school facilitators. Through discussion it became apparent that the categories for challenges and facilitators often represented opposite ends of the same spectrum. For example, a challenge for many students was general lack of support from advisors (20 comments), while a common facilitator was supportive faculty/advisors (19 comments). In the remaining analysis, I discuss both challenges and facilitators together as they are representative of opposite nodes of parallel concepts. Examination of the broader themes in both the challenges and facilitators categories pointed towards three prominent constructs already present in the careers and socialization literatures: mentoring, networking, and perceived organizational support (POS) as it related to financial support from the department or university. Both mentoring and networking will be included as constructs in my theoretical model for the primary study while financial POS will be included as a control.

Mentoring. Issues related to mentoring were reported as a lack of mentoring, in terms of challenges, and effective mentors, in terms of facilitators. Twenty comments referred to a lack of mentoring as a challenge. Examples include statements such as "I had an advisor that was difficult in a couple of ways (being slow to respond, being difficult to predict/inconsistent with advice and feedback)" and "difficulty getting faculty support for my work." In terms of facilitators, the largest category of responses (32%) included comments about supportive faculty/advisors. Overall, 19 comments reflected positive mentoring experiences. Examples include "I would consider some of the faculty to be significant sources of support. Their feedback has been encouraging and helped me to realize that I have the potential to complete this difficult process and thrive in the long term," and "Increasing support from my dissertation director/mentor has been sustaining. She has proven to be invaluable in terms of concrete field-related and professional advice."

Networking. Issues related to (a lack of) networking were reported as (challenges) and facilitators. Eight comments referred to a lack of networking opportunities; examples include "I never really became close or worked with other students in my cohort. It would have been nice if we were more similar and developed more of a mutually beneficial working relationship" and "There's little to no support from classmates, everybody is working on their own project there's no peer support."

Thirteen comments (22%) listed as facilitators referred to the positive end of the networking spectrum. Example comments include "Fantastic classmates who not only make great collaborators, but who have been understanding during challenging times. They have made all the difference!" and "I have had lots of help from the research engineers who work for the institute." Although most of the comments focused on peer networking and support, in the primary study, I will expand this to include peer and professional networking more broadly (e.g., Sturges, Guest, Conway, & Davey, 2002).

Perceived organizational support. Issues related to POS from the department were reported as a lack of support in the challenge category and as positive support in the facilitator category. Twenty-three comments referred to a general lack of support from the department. Examples include comments such as "many hurdles to get funding support for small things (e.g., travelling budget)" and "My department is irritatingly disorganized -- there are not, to my knowledge, any electronic forms or websites where we can enter or track progress. I am rarely sure of what information I should be requesting, and I feel the direction given to help PhD students progress in a timely and effective manner is unclear if it is offered at all." While some comments in this section referred to a general lack of support, it is important to note that a majority of the responses (14, 61%) referred to financial support in particular.

Ten comments (17%) listed as facilitators referred to the positive end of the POS spectrum. Example comments include "the departmental administrative support staff has been incredibly supportive" and "My program had offered me a full tuition scholarship in addition to the teaching opportunities, and I had ample opportunities to TA and work as a research assistant, formally or informally." In the primary study, I will control for the specific financial dimension of POS (Kraimer & Wayne, 2004), given the emphasis that graduate students placed on financial challenges and facilitators.

Conclusion

Ashforth (2001) theorized that individuals less able to address identity motives within a given role will tend to place less importance on that role identity. This pilot study identified several measureable constructs for graduate students that align with Ashforth's identity motives (i.e., meaning, control, and belonging) theorized to lead to higher levels of identification. For the control and belonging motives, I draw from the common challenges and facilitators mentioned in the survey: mentoring and networking. Ashforth (2001) defines control as a motive to master and exercise influence over important domains. Graduate students elicited support from advisors (i.e., career mentoring) and peers and colleagues (i.e., networking) to provide a framework for control within their new roles. Peer and mentor social support was also utilized in the role transition process to meet motivations related to belonging, which Ashforth defines as a desire for attachment with others. In terms of outcome goal variables, I focus on goal quality and goal content (i.e., extrinsic and status) as a reflection of the broader goal setting literature and social identification theory, respectively.

POS also emerged as an important construct related to both control and belonging motives, but as the role of financial POS in developing professional identification is not directly related to issues of identification at the professional level (as opposed to the organizational level) it will be included as a control variable in the theoretical model.

CHAPTER 4. HYPOTHESIS DEVELOPMENT

In this chapter, I briefly introduce the overall hypothesized model and then formulate my specific hypotheses.

Overview of Hypothesized Model

The hypothesized relationships are presented in Figure 2. Social identity theory (Tajfel & Turner, 1979) and Ashforth's (2001) model of role transitions provide the theoretical basis for the hypotheses. Briefly, variables representing Ashforth's (2001) psychological motives of identity, control, meaning, and belonging are expected to positively relate to professional identification. As presented in the model, need for identification and occupational self-efficacy represent the identity motive, networking and career mentoring represent the control motive, meaning and impact represent the meaning motive, and psychosocial mentoring and peer support represent the belonging motive. I note that while the model depicts individual variables corresponding to each motive, each of the four motives may be complementary, so some variables may address multiple motives simultaneously. For simplicity I discuss each variable in the model under only the one motive that most closely aligns the definitions of the variable and the motive. In terms of outcomes, professional identification will positively relate to two goal variables: goals quality and goal content (extrinsic and status). Before presenting the hypotheses, I briefly introduce the key theories and constructs of the model.

Figure 2. Hypothesized Model

According to Ashforth's (2001) model of role transitions, role entry arouses four psychological motives (i.e., identity, meaning, control, and belonging) which a newcomer will seek to fulfill in the context of the role. The more that those motives are met the more likely a newcomer is to internalize the role, and the greater the identification with the role. In turn, identification leads the newcomer to faithfully enact the role identity, which results, in the current model, in establishing and accomplishing identity related goals. The present study applies Ashforth's model to graduate students in professional programs because graduate school, much like training and orientation in organizations, represents systematic training and socialization into a professional role (Austin & McDaniels, 2006; Baker & Pifer, 2011). This presents a unique context for studying role transitions as graduate students learn about and transition into a professional role.

Ashforth (2001) describes the motive for identity as one that is a "quest for self-definition in the organization" (p. 92) and which answers the question of "who am I?" In the model this is represented by two individual difference variables: need for identification and occupational self-efficacy. First, need for identification refers to an individual's need to maintain a social identity derived from membership in a larger group (Glynn, 1998) and thus may be a factor that partly determines how important or central the identity motive is to each individual. Second, occupational self-efficacy addresses one's perceived effectiveness to successfully perform tasks associated with occupational work (Bandura, 1986) and is directly related to individuals' expectations about future success in work roles (Jones, 1986). Thus, the perceptions about abilities to perform may influence how individuals understand and assimilate information about themselves and their new role. As such, both variables assess one's definition of self within a new role and thus answer part of the question "who am I?" in reference to the new role.

The motive for control is defined as a "drive to master and to exercise influence" (Ashforth, 2001, p. 93) and answers the question of "how" the newcomer can engage with the new role. Ashforth (2001) further differentiates between two types of control, primary and secondary. Primary control refers to attempts to actively influence the environment while secondary control involves bringing oneself into line with environmental forces. Behaviors associated with the motive for primary control are proactive behaviors such networking, socializing, and job-change negotiating (Ashford & Black, 2006) while behaviors associated with the motive for secondary control are information seeking and feedback seeking (Ashforth, 2001). Networking, which is the process of developing and maintaining relationships with others who have the potential to assist someone in his or her work or career (Forret & Dougherty, 2004), represents primary control as it captures an individual's attempts to actively and directly influence the environment. That is, networking involves building a network of colleagues and provides the newcomer with access to information, opportunities, and resources that he or she can draw on to better understand, and perhaps secure, various options and paths to succeed in the profession. In contrast, career mentoring, which is mentoring support that enhances a protégé's career-related advancement (Kram, 1985), represents secondary control as it involves motives related to bringing oneself in line with environmental forces. Career mentoring exemplifies secondary control (i.e., information and feedback seeking) in that a senior colleague is providing advice and support to help the newcomer better understand and fit into the graduate program and profession more broadly. As such, both networking and career mentoring address "how" a newcomer incorporates oneself into a new role.

Ashforth (2001) describes the motive for meaning as a "blend of sensemaking and searching for purpose" (p. 93), which answers the questions of "what" and "why" respectively. Meaning refers to a sense of purpose and significance associated with a role beyond the role's obvious formal duties and requirements. Individuals seek meaning because they are defined partly in terms of their roles: if roles are meaningless then so are they (Ashforth, 2001). Role identities help provide meaning by embedding one in the larger social system and they also encourage one to embrace goals and values beyond idiosyncratic self-interests. In the current model, the meaning motive draws from the literature on job characteristics and psychological empowerment for two factors associated with meaningful work: meaning and impact (e.g., Hackman & Oldham, 1976, 1980; Spreitzer, 1995; Grant, 2007).

Broadly, task significance contributes to work motivation because it enables employees to experience their work as meaningful (e.g., Fried & Ferris, 1987; Hackman & Oldham, 1976). Perceptions of task significance can arise from perceptions that the work is intrinsically meaningful (i.e., meaning) or because it has a positive impact on others (i.e., impact). Meaning has been conceptualized as the value of a work goal or purpose that is judged in relation to an individual's own ideals or standards (Thomas & Velthouse, 1990, Spreitzer, 1995) and impact refers to "the degree to which employees feel that their actions benefit other people" (Grant, 2007, p. 110). Accordingly, meaning and impact capture "what" and "why" an individual may identify and gain meaning through the new professional role.

The motive for belonging is defined as "a desire for attachment with others" (p. 93) and answers the question of "who" a newcomer relates to in a new role. Belonging refers to both the sense of attachment that individuals derive from knowing that one or more others are familiar with them and like them as an individual (i.e., personalized belonging) and also when it is based on the knowledge that one shares a social identity with a group of people (i.e., depersonalized belonging; Ashforth, 2001; Brewer, 1981). Sharing a common identity means members of the group share certain "goals, values, beliefs, and commitment to the collective" (Ashforth, 2001, p. 94). In the model, the motive for belonging is captured by both psychosocial mentoring, which addresses interpersonal aspects of the relationship between mentor and protégé such as providing, friendship and advice (Kram, 1985), and peer mentoring which shares the same characteristics as "conventional" mentoring, except that the mentor and protégé are of equal status (i.e., peers). Both variables reflect "who" newcomers interact with in the new role en route to identification with the role.

Ashforth (2001) proposes that each of the above motives lead to role identification. Role identification, in turn, leads to enacting a role identity and should lead to role-relevant outcomes or goals. In other words, individuals entering a professional role attempt to satisfy psychological needs that arise during the transition and thus solidify their identification. Identification, in turn, should lead the individual to set goals consistent with professional values. For academics, for example, a professional goal is to develop new knowledge in the field; an individual drawing from this goal may set an individual career goal of publishing a number of articles in high-ranking journals, thus contributing new knowledge.

In terms of goal related outcome variables, career goals present a unique context for research as they are inherently idiosyncratic; for example goals may refer to attaining a specific job or position (e.g., Chief Financial Officer), working in a specific organization (e.g., University of Iowa), broader job-related concepts (e.g., job duties, activities, rewards, or responsibilities), and may vary between short- and long-term focus (Greenhaus et al., 2010). In assessing career goals, researchers have relied on two main strategies. The first strategy uses nomothetic variables, which do not refer to the content of the goal itself, but to broader characteristics that can be applied to any type of goals. Examples of nomothetic variables are goal difficulty, goal focus, goal clarity, or distance from goal (e.g., Noe, 1996; Noe et al., 1990). Ideographic variables, in contrast, assess the specific content of the goals. Using this strategy, individuals generate their own specific goals which are then measured on content-related goal attributes, such as whether the goal reflects extrinsic or intrinsic motivation (Dik, Sargent, Steger, 2008). The purpose of both methods is to attempt to generalize the inherently individual nature of goal content or properties to examine broader themes between goals and career relevant variables.

In the current study, I utilize both theoretical approaches to define career goals in terms of facets drawn from goal setting (Locke & Latham, 1990) and results from the pilot study. I propose that professional identification is positively related to goal quality (nomothetic perspective) and goal content (ideographic perspective). First, from the nomothetic perspective, I define goal quality as career goals that are difficult, specific, and to which individuals are committed. Difficult and specific goals and goal commitment are the primary features of effective goals within goal setting theory in that such goals are better at directing energy and attention necessary for goal attainment (Locke & Latham, 1990).

From the ideographic perspective, I define goal content as the extent to which goals are extrinsic and reflect a desire for higher relative social and professional standing (e.g., working at a well-known school or company). This conceptualization draws from SIT (Tajfel & Turner, 1979) and findings from the pilot study. According to SIT, when individuals identify with a group they see themselves as possessing the values, attitudes, and, *goals* considered standard for members of the group (Turner, 1985). In the pilot study, the majority of short-term goals were extrinsically focused (88%). As such, the graduate school experience seems to engender goals containing extrinsically oriented content. In terms of goal content related to status, SIT holds that individuals tend to value identities that are socially desirable and enhance their self-esteem. One way to accomplish such "self-enhancement" motives is to identify with higher status groups. Thus, higher levels of professional identification should lead to goals with status content.

Hypotheses

Antecedents to Professional Identification

Need for Identification. Ashforth (2001) describes the motive for identity as one that is a quest for self-definition in the organization. However, previous work has not often examined individual-level antecedents of identification (Kreiner & Ashforth, 2004). Glynn (1998) speculated that individuals are different in their propensity to identify with social objects, such that each individual has a different and specific sense of belonging and of the self in reference to social targets, which she defined as need for identification. Formally, need for identification is defined as "an individual's need to maintain a social identity derived from membership in a larger, more impersonal general social category of a particular collective" (Glynn, 1998, p. 238–9). Note that need for identification is different from other needs-based constructs (i.e., need for affiliation) based on the emphasis of social comparison and group identification. Need for affiliation (McClelland, 1987) corresponds to an individual's desire for social contact and belongingness. Need for identification differs from need for affiliation in that it connects an identity-based relationship between a person and the target, whereas affiliation need not specifically invoke identity processes. Need for affiliation is associated with tendencies to receive social gratification (i.e., rewards) from harmonious relationships with others whereas need for identification is based on developing a good image of oneself thanks to the sense of belonging to a prestigious group rather than the harmony of a group (Kreiner & Ashforth, 2004).

Individuals high in need for identification tend to assign a large part of their search for meaning at work to group membership. Need for identification has been studied almost exclusively at the organization foci, and findings show that need for organizational identification is positively associated with organizational identification and negatively associated with a desire for separateness from the organization (Kreiner & Ashforth, 2004). To further illustrate the identity-based motives behind the construct, Mignonac and colleagues (Mignonac, Herrbach, & Guerrero, 2006) examined the moderating effect of organizational prestige on the relationship between turnover and need for organizational identification. They found that turnover intentions were highest when need for identification was high and organizational prestige was low. In contrast, turnover intentions were the lowest when both need for identification and the prestige of the organization were high (Mignonac, Herrbach, & Guerrero, 2006). Thus, the need for identification and identity relevant factors (i.e., status and prestige) play an important role in determining whether an individual identifies with an organization and therefore intends to remain.

At the professional foci, need for identification should relate to a need to develop a positive image of oneself due to the sense of belonging to a professional group. One study to date has examined need for professional identification; the authors found that, for IT workers, the need for identification was positively related to professional identification (r = .35; Brooks, Riemenschneider, Hardgrave, & O'Leary-Kelly, 2011). Accordingly, I posit that the need for identification should be positively associated with a desire to be part of a professional group, especially considering increased status and prestige associated with professional roles (Abbott, 1981; Hotho, 2008)

Hypothesis 1. Need for identification is positively related to professional identification.

Occupational self-efficacy. A consistent conceptualization underlying all approaches to the study of identification is the notion that desires for self-esteem motivate identification with positively valued social categories or roles (Stets & Burke, 2000; Tajfel & Turner, 1986). Part of the evaluative process in understanding one's self-image as it relates to the profession is occupational self-efficacy. Self-efficacy is broadly defined as individuals' beliefs about their capabilities "to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p. 391). Occupational self-efficacy, more specifically, involves a set of self-beliefs that are specific to particular performance domains related to job and career outcomes and is a key factor in career choice and development (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001). The general premise of the relationship between occupational self-efficacy and career outcomes is that people express interest in certain career and academic pursuits if they think they can perform well in them (Lent et al., 1994).

Efficacy beliefs are positively related to identification with academics for college students (Finn & Frone, 2004; Walker, Greene, & Mansell, 2006) and studies on personal efficacy beliefs and career decisions show that individuals consider wider career options and engage in more educational preparation when they have higher perceived self-efficacy toward occupational roles (Betz & Hackett, 1997). Moreover, the higher people's perceived efficacy to fulfill these roles, the more interest they have in them and the greater is their staying power in challenging career pursuits (Bandura et al., 2001). This provides initial support for application of SIT in a career context, which would suggest a positive relationship between occupational self-efficacy and career-oriented behaviors, such as setting of and commitment to career goals that reflect the expectations of the career or professionally relevant group.

The main tenets of SIT suggest that one identifies with a particular group because it is associated with increases in self-esteem and self-efficacy (Turner, 1982). Accordingly, perceived increases in occupational self-efficacy drawn from membership in a professional group may help one have a positive evaluation of themselves as part of that group. Moreover, Ashforth (2001) describes the motive for identity as one that answers the question “who am I,” and self-efficacy, as a measure of perceptions of self, plays a part in answering this question. Self-efficacy refers to knowledge about ones own skills, abilities, and preferences within the context of the professional role, while identification refers to one’s embracement of this knowledge as a legitimate reflection of the self (“This is who I am”) as self defining (Ashforth, 2001). Therefore, if individuals perceive themselves as capable of completing professional roles, it follows that they will identify more strongly with the profession. For example a medical student may be aware that prototypical doctors are intelligent and caring and may feel that she excels in both of these characteristics, so she internalizes the idea of herself as a doctor and identifies more strongly with the profession.

Hypothesis 2: Occupational self-efficacy is positively related to professional identification.

Networking. Ashforth’s (2001) motives for primary control are reflected chiefly in proactive employee behavior within the new role, and one of the most commonly cited types of newcomer proactive behavior is networking (Ashford & Black, 1996). Networking behaviors are defined as individuals’ attempts to develop and maintain relationships with others who have the potential to assist them in their work or career and include activities such as joining professional associations, seeking high-visibility assignments, and participating in social functions (Forret & Dougherty, 2004). Individuals engage in networking behaviors to help build multiple developmental relationships (Higgins, 2000; Higgins & Kram, 2001) and engaging in such behavior is considered vital for those pursuing careers in which the individual is responsible for shaping the future of their own career rather than relying on their organization (e.g., the boundaryless career; Arthur & Rousseau, 1996; Hall, 1987; Mirvis & Hall, 1996).

Networking satisfies the psychological need for control by providing an individual with the sense that they are proficient and capable to act within the new role and that they are connected with others within the profession (Ashforth, 2001). For example, a graduate student may approach a senior scholar at a conference with ideas for research or to discuss the senior colleague's work. This interaction, to the extent that it is successful, can give the graduate student a sense that they have mastered an aspect of the professional role to which he or she aspires and serves to build connections to the profession. Moreover, networking is consistent with tenets of SIT suggesting that in-group classification draws from the value associated with group membership (Tajfel & Turner, 1979). To the extent that networking provides opportunities and resources (i.e., value) to an individual, networking can help someone shape his or her role within the profession. In sum, I propose that networking gives an individual a sense of control within the new role, and such satisfied needs (achieved through networking) will be positively related to professional identification.

Hypothesis 3: Networking is positively related to professional identification.

Career Mentoring. Organizational insiders have long been recognized as being an important aspect of the newcomer socialization process (e.g., Bauer & Green, 1998; Louis, 1980). Organizational veterans may facilitate newcomer adjustment by giving newcomers needed advice and instructing them in how to do their new jobs (Louis et al., 1983). These organizational veterans and mentors have been positioned as a key set of insiders who help facilitate socialization (Allen, Eby, Poteet, Lentz, & Lima, 2004; Lankau & Scandura 2002; Ostroff & Kozlowski 1993, Paglis, Green & Bauer, 2006, Payne, Culbertson, Boswell, & Barger, 2008) or bring out the potential in newcomers (Green & Bauer, 1995). In the careers literature, mentoring has been associated with important career outcomes such as promotions (Dreher & Ash, 1990; Wayne, Liden, Kraimer & Graf, 1999), income (Dreher & Ash, 1990), intrinsic job satisfaction (Chao, Walz, & Gardner, 1992), and career commitment (Allen et al., 2004).

Kram (1985) outlined two primary mentor functions: career development support and psychosocial support. Career development support enhances protégé advancement in an organization or in their career and includes functions such as sponsorship, exposure and visibility, coaching, protection, and providing challenging assignments. In addition, Kram (1985) described helping the protégé develop a sense of professional competence and achieving long-term career goals as a primary mentor function. Given the important role ascribed to mentoring relationships for career development in graduate school (e.g., Betz, 1997; Green & Bauer, 1995; Tenenbaun, Crosby, & Gliner, 2001), the advisor-student relationship provides a rich opportunity to assess how mentoring can affect identification with the profession.

Career mentoring is likely to satisfy secondary control motives because it is related to bringing oneself in line with environmental forces. That is, career mentoring involves support and advice from a senior colleague which can help the newcomer better understand and fit into the graduate program and profession more broadly. Satisfying this secondary control motive is also consistent with themes from SIT as a mentor can help a newcomer shape him or herself in ways consistent with in-group classification (Tajfel, 1978) and, as such, actively influence how the newcomer fits into the profession. A sense of control over the enactment of a role identity engendered by positive interactions with a mentor enables one to “own” the identity and to more fully internalize it as an authentic expression of the self. Results from the pilot study indicated that students’ feelings of control were enhanced by mentors who offered career advice and clarified and provided information relevant to the professional role. As such, I propose that career mentoring will be positively related to professional identification as it increases one’s sense of control and ownership within the new role.

Hypothesis 4: Career mentoring is positively related to professional identification.

Meaning. A primary driver for the meaning motive is the understanding that individuals need to find purpose and to connect themselves to that purpose so that they believe that they matter (Ashforth, 2001). Meaningfulness refers to a sense of purpose and significance associated with a role beyond the role’s obvious formal duties and requirements. The job design literature posits that meaning is an important characteristic of jobs as it contributes to intrinsic motivation (e.g., Grant, 2007; Hackman & Oldham, 1976; Spreitzer, 1995). Meaning, as a construct distinct from Ashforth’s meaning *motive*, is defined as the value of a work goal or purpose which is judged against one’s own ideals and standards (Spreitzer, 1995). The meaning dimension of psychological empowerment has been shown to mediate the relationship between job characteristics and work satisfaction and organizational commitment (Liden, Wayne, & Sparrowe, 2000). Moreover, the meaning dimension is negatively associated with role ambiguity (Spreitzer, 1996). Thus, roles which have meaning enable individuals to understand those roles and develop attachment to their work, and, as such, should lead to higher levels of identification with the profession.

Hypothesis 5: Meaning is positively related to professional identification.

Impact. An additional construct satisfying the meaning motive is impact. In the job design literature, impact can refer to task significance, which is the extent to which a job provides opportunities to improve the welfare of others (Hackman & Oldam, 1976; Steers & Mowday, 1977). In a broader context, perceived social impact refers to the degree that employees feel that their own actions benefit or improve the welfare of other people (Grant, 2008; Grant et al., 2007). Because graduate students are still being socialized into the professional role, the perceived social impact of their work is more likely to be related to identification with the role. Research on impact shows that increased perceptions of social impact increases task performance in terms of money raised, hours worked, and helping ratings (Grant, 2008). The focus on perceptions of social impact emphasizes the relational mechanisms through which work connects employees' actions to other people (Grant, 2007). The findings suggest that employees process task significance as social cognition (i.e., how it impacts others), which provides meaning to the professional role. As such, perceived impact should lead individuals to ascribe meaning to roles associated with their chosen profession, which, in line with Ashforth’s (2001) psychological motives would result in higher levels of professional identification.

Hypothesis 6: Impact is positively related to professional identification.

Psychosocial Mentoring. The final psychological motive related to role identification in Ashforth's (2001) model is belonging, defined broadly as a desire for attachment with others in a new role as well as the desire to be a part of a community were there is underlying interest (Bowlby, 1998). Belongingness and identification are related to (1) the desire that one or more others are familiar with an individual *as an individual* and (2) a sense of becoming part of the social system that is *shared between individuals* (Ashforth, 2001). Whereas career mentoring was expected to fulfill motives for control, psychosocial mentoring, the second of Kram's (1985) two primary mentoring functions, is expected to fulfill motives for belonging. Psychosocial mentoring addresses interpersonal aspects of the relationship between mentor and protégé and includes functions such as serving as a role model and providing counseling, friendship, and advice (Kram, 1985). Meta-analytic evidence supports the link between psychosocial mentoring and both career and job satisfaction (Allen, Eby, Poteet, Lentz, & Lima, 2004), but no studies to date have examined the relationship between psychosocial mentoring and professional identification.

Psychosocial mentoring is expected to be positively related to professional identification because psychosocial mentoring fosters an attachment, or belonging, with senior colleagues in the profession, which develops the protégé's self-concept (Kram, 1985). According to SIT, perceived group membership arises out of a social comparison process wherein individuals differentiate between in-group members similar to the self and out-group members who are different from the self. The more psychosocial mentoring one receives, the more likely that individual will understand and feel similar to others in the profession, which should increase feelings of in-group belonging. Accordingly, individuals with high levels of psychosocial mentoring will have higher levels of professional identification.

Hypothesis 7: Psychosocial mentoring is positively related to professional identification.

Peer Support. A second way for individuals to fulfill individual needs for belonging is through relationships with peers. While the majority of mentoring studies focus on the relationships that occur between junior and senior employees, peer relationships also fulfill a variety of career-related and psychosocial functions similar to those in conventionally defined mentoring relationships. Peer mentoring offers unique developmental opportunities in that it provides a forum for mutual exchange—as opposed to the one-way dynamic present in conventional mentoring relationships (Kram & Isabella, 1985). These interactions can enable one to develop a sense of expertise, equality, and empathy that is not always present in conventional mentoring (Kram & Isabella, 1985). For example, peer mentoring in MBA programs is related to perceptions of socialization within the program (i.e., "I believe most of my fellow students like me;" Allen, McManus, & Russell, 1999).

Ashforth (2001) notes that social networks in organizations tend to form around salient social identities. In addition, socialization processes predispose individuals to interact and develop interpersonal attachments (Kramer, 1991; Schneider, 1987). Similar to the rationale from SIT presented above, the extent that peers offer support and develop interpersonal attachments with an individual means that individual is likely to see him or herself as more similar to peers as in-group members. As a result, peer support should meet psychological motives for belonging and should be positively associated with the extent to which an individual identifies with the profession.

Hypothesis 8: Peer support is positively related to professional identification.

Goals and Professional Identification

Cantor and Zirkel (1990) stated that individuals devote considerable energy to the creation of meaningful goals mostly during transitional stages of life. Ashforth (2001) expands on this in describing goal setting in the transition process as the assimilation of professional goals and individual goals. Accordingly, I believe that professional identification is closely related to the construal of career goals while individuals are transitioning into new professional roles and are still searching for a sense of identity, meaning, control, and belonging in the work-related tasks and roles associated with the profession. In the current study, I utilize both nomothetic (goal quality) and ideographic (goal content) perspectives to define career goals in terms of facets drawn from goal setting (Locke & Latham, 1990) and results from the pilot study.

Goal Quality. Goal quality is represented by goals that align with the primary tenets of goal setting theory, that is, career goals that are difficult, specific, and to which individuals are committed. Although Ashforth (2001) recognizes that identification is often an end in itself for individuals, identification matters from organizational and professional perspectives because it means that an individual can be trusted to faithfully enact the role identity. This is consistent with research on role identification which indicates that individuals tend to choose activities congruent with salient aspects of their identities (Burke & Reitzes, 1981; Stryker & Sterpe, 1982). I propose that an important and unmeasured link in the relationship between identification and performance is the setting of professional goals.

The perception of oneness with a role or profession helps ensure that one thinks, feels, and acts like an exemplary member of the role or organization, which should be reflected in setting goals of high quality (i.e., the goal is specific, difficult, and one is highly committed to reaching the goal). In terms of goal difficulty, individuals high in professional identification should set goals that reflect the highest standard of professional aspirations, thus those goals are likely to be difficult to attain. In SIT, behavior is driven by a need to increase self evaluations, so individuals will act in ways which increase the evaluation of the in-group relative to the out-group, thus enhancing their own evaluation as an in-group member (Turner, 1987). Similarly, Ashforth, (2001) argues that when one identifies with a profession, doing well for the profession is "tantamount to doing well for oneself" (p. 131), so setting and attaining difficult goals would be one way of elevating group status relative to others. In terms of specificity, professional identification should lead to specific goals because role identification induces one to carefully enact the role identity, and dedicated and thorough understanding of the role should lead to goals which are specific and professionally-relevant. Finally, goal commitment might be created because SIT would suggest that if one identifies with the profession they will be more committed to actions that maintain their belonging to the group. As a result, high levels of professional identification should lead to commitment to goals shaped by identification with the profession. In sum, professional identification should be positively associated to goals that meet the standards of quality outlined in goal setting theory: they are difficult, specific, and one is committed to them.

Hypothesis 9: Professional identification is positively related to goal quality.

Goal Content. Goal content refers to the extent that goals are either (1) extrinsic or (2) reflect status attainment. Status goals and extrinsic goals are closely related, however, I address each type of goal separately as I believe that the relationship between professional identification and extrinsic goals, one the one hand, and professional identification and status goals, on the other, are theoretically distinct because they relate to different relative group comparisons. I distinguish between content of extrinsic goals, goals which relate to financial or material success, and status goals, goals which relate to social image, prestige, or high social standing within a group.

According to SIT, individuals want to be included in social groups that can be positively distinguished from other groups because this results in a positive self-identity (Tajfel & Turner, 1979). Therefore, group members are expected to act on or create opportunities to improve the positive evaluation of their group relative to others. However, the comparative evaluation of a group can be established in relation to multiple comparison groups. For example, Abbott (1981, 2014) differentiates between inter-professional and intra-professional comparisons. Inter-professional comparisons relate one professional group to another, or one professional group to non-professionals – for example, comparing doctors to lawyers, or doctors to the general public. In contrast, intra-professional comparisons refer to relative standing within a single professional group – for example, comparing different types of doctor specialties within the profession. Abbott (1981) argues that professions usually have a distinct internal hierarchy so that certain roles, like that of being a surgeon, are seen as having higher status than other roles, such as being a general practitioner.

Consequently, professional identification may lead to distinct content goals relative to different comparison groups in two ways: first, through setting goals to achieve financial or material success professionals can upgrade the status of their group as a whole (inter-professional comparison), or, second, through setting goals for high status positions, professionals can increase a their individual status within the professional group (intra-professional comparison). In this way, goal content can be a product of professional identification and positive identity evaluations in relation to different comparison groups.

Extrinsic goals. Abbott (1981) argued that inter-professional comparisons are based largely on public perceptions of professional roles. Financial success has long been a core component of the so-called American dream (Kasser and Ryan, 1993, 1996), and many of the values modeled and encouraged by modern society suggest that success and happiness depend on procuring monetary wealth (Abbott, 1981). Studies have found that business and law students identified with their chosen profession because the profession represented the ability to have the salary and middle-class lifestyle associated with higher earnings (Schleef, 2000). From the vantage point of society as a whole then, income is a primary basis for determining general social standing of a profession. The external, public perspective authenticates professional standing and success largely through the associated income.

Although income is generally considered a marker of personal social standing, it may also be a way for professionals to increase the status of their professional group over others. As presented in SIT, individuals are motivated to increase their own self-image by enhancing the status of the group to which they belong (Tajfel & Turner, 1979). Extrinsic goals such as high salary and material possessions are visible goals which can bolster the status of the in-group (i.e., the profession) relative to the out-group (i.e., non-professionals). The more one identifies with a professional group, the more likely they are to set goals that would increase the status of the group compared to other groups (inter-professional comparison). Thus, increased identification with the profession can lead to individuals to set goals containing content that reflects extrinsic motives for financial success because it will result in higher standing for the profession as a whole – which results in positive esteem outcomes for the individual professional.

Status goals. The emphasis on status is ae key feature in SIT (Tajfel & Turner, 1979; Turner et al., 1987), and is considered to be a primary motivation for identification with relevant groups. The high public status of the professions is unquestioned in nearly all data on occupational prestige (Abbott, 2014; Featherman & Hauser, 1976; Inkeles and Rossi 1956; Nako & Treas, 1994; Stevens & Featherman, 1981). The main argument is that power and status are universally and highly valued in any society, so powerful occupations are highly regarded by all individuals (Treiman, 2013). For example, studies have shown that students entering the business and law professions identified with their chosen occupation, not because the students had high perceived self-aptitude, but because the profession represented the ability to have the prestige (Schleef, 2000) and social status (Greenfield, 1992) associated with the profession.

However, the above conceptualizations relate largely to entry into a profession. Once an individual has been socialized into a profession and developed a professional identity, their comparisons and desire for status are likely to relate to distinguishing themselves within the profession (intra-professional comparison). Ashforth (2001) defines a socially desirable transition as one that is generally regarded by others in positive terms, where "others" refers to society in general and members of one's role set, or in-group, in particular (Ashforth, 2001). Thus, while there is status to be gained from the perspective of society in general through joining a profession, more positive esteem outcomes can also arise from pursuing high status roles within the profession as judged from the perspective of one's in-group. For example, medical students interested in surgery listed the prestige associated with the specialty, as opposed to other specialties such as general practice or family medicine, as one of the factors determining their particular career choice (Azizzadeh, McCollum, Miller, Holliday, Shilstone, & Lucci, 2003). Therefore, differential status roles within the profession may be an important consideration for students being socialized into the profession.

Research on occupational prestige indicates that roles associated with complex tasks, status, and power are more likely to be regarded as socially desirable (Treiman, 1977). Given that within SIT, identification is based on perception of belonging to a higher status group or role, higher levels of professional identification should make individuals more likely to see high status roles as desirable. Setting and achieving goals related to high status positions would result in positive esteem outcomes for individuals who strongly identify with the profession. Roles lacking status are less likely to address an incumbent's psychological motives—particularly for identity, a sense of meaningfulness, and control (Ashforth, 2001), and are thus less likely to be prospective goals of those with high professional identification.

Hypothesis 10: Professional identification is positively related to (a) extrinsic and (b) status goals

In summary, the current model proposes eight antecedents to professional identification which correspond to Ashforth's (2001) psychological motives for identity, control, meaning, and belonging. Need for identification, occupational self-efficacy, networking, career mentoring, meaning, impact, psychosocial mentoring, and peer support are all expected to positively relate to professional identification. Professional identification, in turn, is expected to be positively related to goal quality and goal content reflecting extrinsic and status goals. In the next chapter I discuss the methodology.

CHAPTER 5: METHODOLOGY

Participants and Procedures

Survey data was collected in the winter of 2015-2016 from graduate students in professional programs in the United States. I contacted schools based on their conference division; universities from the Big 10, Big 12, Pac 12, and SEC were included in my initial contact efforts. Survey distribution was done through email only, with each email including a link to the particular survey on Qualtrics. There were three surveys in total, each separated by approximately 4 weeks. The purpose of collecting data over three surveys was to reduce systematic errors related to common method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). In order to encourage responses on Survey 2 and Survey 3, I offered participants $5 gift cards for completing each survey.

Invitations to complete the first web-based survey were distributed in two ways. First, I identified graduate program coordinators from university websites and emailed asking them to forward the link to the first online survey to their graduate students; this option was the way in which I collected data for my pilot study. In total, I emailed 388 graduate coordinators. Second, when email addresses for students were available on university websites, I emailed the students directly with a link to the first online survey; I directly emailed 3,635 students. I did not send out any reminder emails for Survey 1.

The first question on Survey 1 asked respondents to enter their email address as this was used to contact students for Survey 2 and Survey 3 and to match respondents across surveys. As such, surveys were confidential but not anonymous. I note, however, that it was possible for students, if they had an email with no identifying characteristics (e.g., gohawks@gmail.com), to stay anonymous if they wished to do so. It was not a requirement that respondents enter school emails containing identifying information.

Survey 1 contained questions on role entry expectations and perceived organizational support (as control variables), need for identification, occupational self-efficacy, networking, career mentoring, meaning, impact, psychosocial mentoring, peer support, and demographics. Survey 2 contained measures of professional identification, occupational identification (as a control), open-ended questions for <u>short-term</u> goals and scale items in reference to short-term goal quality (i.e., specific, difficult, commitment) and goal content (i.e., extrinsic and status). Short-term goals were defined as "occupational goals that you hope to achieve soon after graduation." Survey 3 contained measures of professional identification (repeated), open-ended questions for <u>long-term</u> goals and scale items in reference to long-term goal quality (i.e., specific, difficult, commitment) and goal content (i.e., extrinsic and status). Long-term goals were defined as "occupational goals that you hope to achieve one day in your career."

In total, 704 graduate students responded to Survey 1; however, a significant number only filled out part of the survey. After eliminating respondents who did not provide an email address and those with missing data on a majority of study variables, the final sample size was 480 respondents. Because graduate coordinators forwarded the survey link to an unknown number of graduate students, it is not possible to calculate a response rate. However, considering that I emailed 3,635 students directly, my maximum possible response rate would be 13%. The actual response rate would be somewhat less than 13% since not every student invited by graduate coordinators responded to the study.

Invitations to complete the second and third surveys were distributed directly to the 480 graduate students who responded to Survey 1. Two reminder emails were sent during the

4-week period that each respective survey was open. In total, 343 students responded to Survey 2 (71.4% response rate of Survey 1 respondents) and 331 students responded to Survey 3 (68.9% response rate of Survey 1 respondents). In total, 333 people completed Survey 1 and Survey 2, while 276 people completed or partially completed all three surveys. After removing participants with a large amount of missing data on focal variables, the final sample size was 312 for testing the hypothesized model using short-term goals (short-term goal [STG] model) and 243 for testing the hypothesized model using long-term goals (long-term goal [LTG] model).

Respondents were enrolled in programs from 28 different universities. Approximately one quarter (23.6%) of respondents were enrolled in Masters programs (e.g., MA, MS, MLS), while the remaining three quarters (76.4%) of respondents were enrolled in PhD programs or equivalent (e.g., PhD, Ed.S, MD/PhD). A large variety of program fields were reported. The 17 fields were subsequently categorized into "hard" and "social" sciences. Hard sciences included about half of respondents (53.2%) from the following fields: engineering/computer science, health/medicine, biological and physical sciences, agricultural or animal sciences, architecture, mathematics, chemistry, and astronomy. Social sciences (46.8%) included respondents from the following fields: arts/humanities, business, communication, education, government, law/public policy/criminal justice, psychology/social science, and library science.

Programs ranged from one to eight years, the mean program length was 4.45 years. Respondents had been enrolled in their program from .23 to 8 years and the mean time in the program was 2.08 years. A majority of respondents (86.7%) were on track to finish on time.

Students had a variety of financial support including teaching assistantships (49.5%), research assistantships (53.8%), and/or grants (19.8%).

The age of respondents ranged from 21 to 63 years, with a mean age of 28.14 years; 54.6% of respondents were female; 6.4% indicated they were of Hispanic origin. A majority of the sample was Caucasian (75.2%), and the remaining respondents identified as Asian (16.2%), African American (2.9%), Indian (2.4%), and other (3.3%). About one quarter (24.6%) of respondents were international students. Approximately half of the respondents were married or living with a committed partner (57%) and the majority did not have children (88.9%).

Measures

All measures were self-reported and items were measured on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) unless otherwise noted. The full set of measures is listed in the Appendix.

Need for Identification. Need for identification was measured with seven items from Krainer and Ashforth (2004). Example items are “Without a profession to work for, I would feel incomplete” and “No matter where I work, I’d like to think of myself as representing what the profession stands for.” Items were averaged to create a single scale score ($\alpha = .80$).

Occupational Self-Efficacy. Self-efficacy as it relates to the occupation was measured with a six-item scale adapted from Rigotti, Schyns, and Mohr (2008) to reflect experiences in graduate school. Example items are “I can remain calm when facing difficulties in my graduate program because I can rely on my abilities” and “When I am confronted with a problem in my graduate study, I can usually find several solutions.” Items were averaged to create a single scale score ($\alpha = .84$).

Networking. Professional networking was measured using seven items adapted from Sturges et al. (2002). The original items referred to networking broadly; the adaptations consisted of referring specifically to professional networking, when applicable. Example items are “I have gotten myself introduced to people within the profession who can influence my career” and “I have built work relationships with my peers.” Items were averaged to create a single scale score ($\alpha = .80$)

Mentoring. Both career mentoring and psychosocial mentoring scales were from the shortened version of Dreher and Ash (1990) reported in Kraimer, Seibert, Wayne, Liden, and Bravo (2011) and contained four items each. Responses range from 1 (*not at all*) to 5 (*to a very large extent*). Example items for *career mentoring* ask to what extent faculty advisor(s) have “given or recommended you for challenging assignments that present opportunities to learn new skills” and “given or recommended you for assignments that helped you meet new colleagues.” Items were averaged to create a single scale score ($\alpha = .91$). Examples of *psychosocial support* include items such as the extent to which advisor(s) have “conveyed empathy for the concerns and feelings you have discussed with him/her” and “encouraged you to talk openly about anxiety, fears, or concerns you have that may detract from your work.” Items were averaged to create a single scale score ($\alpha = .90$)

Meaning. Meaning was assessed with three items adapted from the meaning dimension of the psychological empowerment scale (Spreitzer, 1995) so that they reflected occupational roles. Example items are “The job activities associated with this occupation are personally meaningful to me” and “The work of this occupation is meaningful to me.” Items were averaged to create a single scale score ($\alpha = .88$).

Impact. Impact was assessed with three items from Grant (2008). Example items are "I am very conscious of the positive impact that my work in this occupation has on others" and "I feel that I can have a positive impact on others through my work in this occupation." Items were averaged to create a single scale score ($\alpha = .91$).

Peer Support. Peer support was measured with a modified version of the psychosocial mentoring scale (Kraimer et al., 2001) which was adapted to reference peers instead of formal mentors. Examples items include the extent to which peers have "conveyed empathy for the concerns and feelings you have discussed with him/her" and "encouraged you to talk openly about anxiety, fears, or concerns you have that may detract from your work." Items were averaged to create a single scale score ($\alpha = .93$).

Professional identification. Professional identification was measured using five items from Hekman et al. (2009a). Example items are "In general, when someone praises my profession, it feels like a personal compliment" and "My field's successes are my successes." Items were averaged to create a single scale score ($\alpha = .74$).

Goal Content. The extrinsic and status content of goals was assessed with scale items from Seibert et al. (2013). Example items for extrinsic goals are "It is important to me to achieve financial success in my career" and "One's success in this career can be judged by the amount of money one makes." Example items for status goals are "It is important for me to be seen by others as a success in my career" and "I want to achieve a high social status in my career." Extrinsic and status goal importance were measured twice, once with respect to short-term goals in Survey 2 and once for long-term goals in Survey 3. Items were averaged within each dimension to create a single scale score for short-term extrinsic ($\alpha = .64$), short-term status ($\alpha = .78$), long-term extrinsic ($\alpha = .64$), and long-term status ($\alpha = .75$) goals.

Goal Quality. Participants were asked to generate a list of personal work goals defined as "objectives, projects, and plans related to your job, career, and occupation." On Survey 2, respondents were asked to generate short-term goals. These goals were explained as goals that one hoped to achieve soon after graduation, such as getting a particular type of job or getting a job at a particular university/institution. On Survey 3, respondents were asked to generate long-term goals. These goals were explained as occupational goals that someone hopes to achieve someday in his or her career, or goals representing more distant occupational aspirations. I asked respondents to list two short-term goals (Survey 2) and two long-term goals (Survey 3), as this was the average of the open-ended request for self-reported goals from Study 1.

For each goal statement, respondents replied to statements related to goal difficulty, goal specificity, and goal commitment (see below). In addition, two raters independently coded all self-reported short- and long-term goal statements; professional relevance of the goal was coded dichotomously (1 = relevant; 0 = not relevant). The purpose of this coding was to remove any goals that were not professionally relevant when creating the goal quality score. The relevance code was then multiplied by the average of the goal difficulty, specificity, and commitment items for each goal. In this way, scores for goals that were not professionally relevant were not included in the analysis.

On Survey 2, 626 short-term goals were reported; of these, 38 were deemed not relevant to the profession. Goals that were not professionally relevant were largely related to living in a particular location (e.g., "To get a great job in Seattle, Washington") or did not actually contain goals (e.g., "After my first semester as a PhD student, I no longer know what my career goals are. I thought I wanted to eventually be a tenure track professor, but I'm no longer sure of that”). On Survey 3, 519 long-term goals were reported; of these, 20 were deemed not relevant to the profession for the same reasons as above (e.g. location: “live in a state where my significant other can find work as well”), with an additional category of non-relevant goals being related to personal/family matters (e.g., “I want to own and operate my own airplane by age 40” or “save for retirement”). The two raters had a moderate level of agreement based on guidelines from Altman (1999) and adapted from Landis & Koch (1977), Cohen’s $\kappa = .58$; any disagreements were resolved through discussion.

Respondents were asked to report two short-term (Survey 2) and two long-term goals (Survey 3). The average of the goal quality scores therefore represents the goal quality in terms of difficulty, specificity, and commitment, and the extent that it is professionally relevant across the two goals. However, in a small number of cases respondents only reported one goal, or only one of two goals was professionally relevant. If respondents had two professionally relevant goals, then their goal quality score represents the mean of goal difficulty, specificity, and commitment across both goals (short-term goals, $N=272$ respondents; long-term goals, $N= 236$ respondents), whereas if respondents had only one professionally relevant goal, then their goal quality score is the mean of goal difficulty, specificity, and commitment from the single goal (short-term goals, $N=45$ respondents; long-term goals, $N= 25$ respondents). Both short-term ($\alpha = .80$) and long-term ($\alpha = .77$) goal quality demonstrated adequate levels of reliability.

Goal Difficulty. Two items from Steers (1976) were used to measure goal difficulty. The items were “This goal will require a great deal of effort from me to complete” and “This goal is quite difficult to attain.”

Goal Specificity. Respondents answered two questions from Steers (1976) to assess the specificity of each self-reported goal. The two items were “This goal is very clear and specific” and “I have a clear sense of how to achieve this career goal.”

Goal Commitment. Goal commitment was measured using two items from Hollenbeck, Klain, O’Leary, & Wright (1989). The two items are “I am strongly committed to pursuing this goal” and “It would take a lot to make me abandon this goal.”

Control Variables. I identified and measured several potentially relevant control variables. Guidelines for selecting control variables recommend increased attention to the inclusion of control variables including theoretically-based justifications and adequate information about the rationale for expected effects between control and outcome variables (Aguinis & Vandenberg, 2014; Becker, 2005; Berneth & Aguinis, *in press*). I included three control variables (i.e., met expectations, organizational identification, and the financial subscale of perceived organizational support [POS]) based on Ashforth’s (2001) model of identification and information from the pilot study. First, Ashforth’s model of role transitions in organizations positions “met expectations” as a precursor to identity-related processes and subsequent identification; the rationale is that newcomers have certain expectations about new roles, and when these expectations do not match reality, they can experience reality shock which affects subsequent identification processes (Ashforth, 2001; Major, Kozlowski, Chao, Gardner, 1995). As such, I controlled for role entry met expectations as different expectations prior to entering graduate programs may have influenced graduate students’ identification with the profession (2 items measured on Survey 1; $\alpha = .88$, Arnold & Feldman 1982; Lee & Mowday, 1987).

Second, different types of identification (e.g., organizational, professional) have been shown to have differential effects with a variety of performance and behavioral outcomes (Hekman et al., 2009a, 2009b; Johnson et al., 2006). It is possible that identification with the organization (i.e., university) may affect graduates' career goals; for example, if a university values engagement with the private sector for research, it is likely that graduate students' advisors, and graduate students themselves will internalize these values based on their identification with the organization. In order to examine the effects of professional identification in isolation and reduce potential bias in my results, I chose to control for the effects of organizational identification (5 items measured on Survey 2; $\alpha = .87$; Heckman et al., 2009a). Last, I controlled for the financial subscale of POS. In the pilot study, comments associated with department-related challenges referred to lack of financial support as posing a significant obstacle for students in achieving their goals (14 comments). Because financial challenges occur at the organizational level, that is, department support is not theoretically related to identification with the profession, I controlled for financial POS in order to rule out alternative influences on professional identification and goal-related outcomes (4 items measured on Survey 1; $\alpha = .94$; Kraimer & Wayne, 2004).

In addition to the above, pre-defined control variables, a number of potential control variables were measured on the Survey 1 including individual demographic variables (e.g., gender, age, race) and program- or professionally-relevant variables (e.g., whether the student was on track to finish on time, type of degree, program field). None of the individual demographic variables were significantly correlated with professional identification or the goal outcome variables. As there is neither strong theory nor previous empirical research suggesting their inclusion, I excluded them from any further analyses (Becker, 2005; Berneth

& Aguinis, *in press*). In contrast, several program and professionally-relevant variables had significant bivariate correlations with professional identification and/or goal outcome variables: degree type (Masters vs. PhD), program field (hard vs. social science), international student (yes/no), whether they are on track to finish on time (yes/no), and previous professional experience (yes/no).

Beyond observed statistical relationships, best practice recommendations for control variable inclusion suggest explaining why control variables are considered biasing factors rather than substantive ones (Becker, 2005). The above program variables are considered biasing factors, that is, they do not relate to substantive, theoretical relationships in my model, for a variety of reasons. For degree type and program field, both variables distinctly relate to career goals as the degree type (Masters vs. PhD) and program field (hard vs. social sciences) offer widely different career possibilities upon graduation (Austin, 2002). For example, graduate students from PhD programs have the opportunity to pursue tenure-track academic positions whereas Masters students do not. In addition, data from the National Science Foundation shows that pursuit of academic jobs differs across academic disciplines; fewer graduates from the hard sciences find academic jobs by graduation (e.g., engineering, 5.1%) compared to the social sciences (e.g., 26.5%; Weissmann, 2013). Because I am interested in the way that professional identification relates to broad career goals, controlling for the degree types and program field helps me to account for differences in career goals that are not of substantive interest.

For international student status (yes/no), international students may have differently motivated career goals based on retaining or maintaining visas in particular countries. Because I am only interested in the effect of professional identification on career goals, controlling for international student status may reduce bias related to career goal setting primarily related to location or citizenship concerns. For finishing on time (yes/no), graduate students provided a variety of examples in the survey that delayed their schooling such as personal/family issues and faculty/advisor issues. Since these factors are related to personal or organizational, rather than professional factors, including finishing on time as a control variable removes the potential biasing effects of personal or organizational issues on professional identification. Last, previous professional experience (yes/no) is very likely to influence rates of professional identification. A main assumption of the current model, based on Ashforth's (2001) work, is that individuals are newcomers into the profession and experience graduate school as socialization into the profession. Previous professional experience is likely to impact both professional identification and the career goals of graduate students, which is not of substantive interest in the current research.

In sum, I included three variables as controls based on Ashforth's (2001) model and findings from the pilot study. An additional four program-related variables were included based on their relationship with the dependent variables and because their inclusion enables me to rule out alternative explanations in the relationships between identity motives, professional identification, and career goals in the present sample of graduate students. The means, standard deviations, and intercorrelations among study variables are shown in Table 1.

Table 1: Descriptive Statistics and Zero-Order Correlations

Variable	*M*	*SD*	*α*	1	2	3	4	5
1. International student	.21	.41	--	--				
2. Finish on time	.87	.34	--	.09	--			
3. Degree Type	.79	.41	--	.06	.14*	--		
4. Professional Work Experience	.60	.49	--	-.04	-.04	.00	--	
5. Met Expectations	3.85	.83	.88	.10	.25**	.06	-.04	*.89*
6. Perceived Org Support - Financial	3.45	1.17	.94	.04	.21**	.21**	-.11*	.24**
7. Organizational Identification	3.35	.91	.87	.20**	.04	-.10	-.15	.15**
8. Need for Identification	3.77	.67	.80	.04	.06	-.07	-.03	.20**
9. Occupational Self Efficacy	3.78	.65	.84	-.04	.16**	.01	.05	.50**
10. Professional Networking	3.62	.68	.80	-.13*	.09	.07	.03	.33**
11. Career Mentoring	3.14	1.05	.91	.08	.13*	.12*	-.04	.22**
12. Meaning	4.25	.71	.88	-.02	.02	-.05	.15**	.37**
13. Impact	4.06	.87	.91	-.03	.01	-.16**	.10	.31
14. Psychosocial Mentoring	3.09	1.13	.90	.08	.04	.08	-.01	.31**
15. Peer Support	3.78	1.01	.93	-.09	.01	.02	-.11*	.26**
16. Professional Identification	3.57	.72	.74	.01	.16**	-.08	-.05	.20**
17. STG Quality	3.90	.85	.80	-.01	.10	.13*	.00	.20**
18. STG Content - Extrinsic	3.69	.75	.64	.01	-.02	-.01	-.01	-.04
19. STG Content - Status	3.28	.75	.78	.21**	.06	.05	-.08	.11
20. LTG Quality	3.87	.78	.77	.08	.18**	.09	-.02	.14*
21. LTG Content - Extrinsic	3.66	.73	.64	.10	-.03	-.02	-.07	.04
22. LTG Content - Status	3.28	.69	.75	.29**	.02	.02	-.17*	.14*

Note: Ns range from 248-335; International student, finish on time, and professional work experience are coded as (0 = no, 1 = yes); degree type is coded as (0 = MA/MS, 1 = PhD); STG = short-term goal; LTG = long-term goal; italicized values along diagonal are √AVE values.

* *p* < .05. ***p* <.01

Table 1 (continued)

Variable	6	7	8	9	10	11	12	13
1. International student								
2. Finish on time								
3. Degree Type								
4. Professional Work Experience								
5. Met Expectations								
6. Perceived Org Support - Financial	*.78*							
7. Organizational Identification	.22**	*.76*						
8. Need for Identification	.03	.31**	*.79*					
9. Occupational Self Efficacy	.15**	.24**	.19**	*.75*				
10. Professional Networking	.18**	.16**	.15**	.47**	*.73*			
11. Career Mentoring	.28**	.28**	.11*	.27**	.38**	*.74*		
12. Meaning	.08	.18**	.52**	.31**	.29**	.15**	*.84*	
13. Impact	.08	.23**	.41**	.36**	.32**	.14*	.69**	*.89*
14. Psychosocial Mentoring	.15**	.28**	.17**	.25**	.27**	.46**	.25**	.22**
15. Peer Support	.19**	.16**	.13*	.16**	.28**	.08	.15**	.16**
16. Professional Identification	.12**	.45**	.48**	.22**	.19**	.18**	.37**	.34**
17. STG Quality	-.02	.08	.14*	.17**	.16**	.06	.17**	.15**
18. STG Content - Extrinsic	-.01	.10	.27**	.03	.09	.01	.12*	.07
19. STG Content - Status	.08	.28**	.37**	.14*	.14*	.18**	.25**	.12*
20. LTG Quality	.10	.22**	.30**	.21**	.17**	.16**	.35**	.31**
21. LTG Content - Extrinsic	-.02	.07	.30**	.02	.08	.04	.02	.05
22. LTG Content - Status	.07	.24**	.38**	.08	.08	.19**	.16**	.10

Note: Ns range from 248-335; International student, finish on time, and professional work experience are coded as (0 = no, 1 = yes); degree type is coded as (0 = MA/MS, 1 = PhD); STG = short-term goal; LTG = long-term goal; italicized values along diagonal are √AVE values.

* $p < .05$. **$p < .01$

Table 1 (continued)

Variable	14	15	16	17	18	19	20	21	22
1. International student									
2. Finish on time									
3. Degree Type									
4. Professional Work Experience									
5. Met Expectations									
6. Perceived Org Support - Financial									
7. Organizational Identification									
8. Need for Identification									
9. Occupational Self Efficacy									
10. Professional Networking									
11. Career Mentoring									
12. Meaning									
13. Impact									
14. Psychosocial Mentoring	*.75*								
15. Peer Support	.27**	*.78*							
16. Professional Identification	.30**	.18**	*.63*						
17. STG Quality	.08	.07	.18**	*.59*					
18. STG Content - Extrinsic	.00	-.01	.24**	.13*	*.70*				
19. STG Content - Status	.14*	-.02	.28**	.22**	.58**	*.69*			
20. LTG Quality	.10	.10	.21**	.39**	.18**	.28**	*.57*		
21. LTG Content - Extrinsic	.04	.05	.24**	.06	.75**	.54**	.16*	*.70*	
22. LTG Content - Status	.16*	.02	.26**	.11	.55**	.79**	.24**	.66**	*.66*

Note: Ns range from 248-335; International student, finish on time, and professional work experience are coded as (0 = no, 1 = yes); degree type is coded as (0 = MA/MS, 1 = PhD); STG = short-term goal; LTG = long-term goal; italicized values along diagonal are √AVE values.

* $p < .05$. **$p < .01$

CHAPTER 6: ANALYSES AND RESULTS

Descriptive statistics reported in Table 1 show that professional identification is positively correlated with each of the proposed independent variables: need for identification ($r = .48$, $p < .01$), occupational self-efficacy ($r = .22$, $p < .01$), professional networking ($r = .19$, $p < .01$), career mentoring ($r = .18$, $p < .01$), meaning ($r = .37$, $p < .01$), impact ($r = .34$, $p < .01$), psychosocial mentoring ($r = .30$, $p < .01$), and peer support ($r = .18$, $p < .01$). Professional identification is also positively related to each of the goal outcome variables including: STG Quality ($r = .18$, $p < .01$), STG Content-Extrinsic ($r = .24$, $p < .01$), STG Content-Status ($r = .28$, $p < .01$), LTG Quality ($r = .21$, $p < .01$), LTG Content-Extrinsic ($r = .24$, $p < .01$), and LTG Content-Status ($r = .26$, $p < .01$). The correlations between goal content variables are somewhat strong (Cohen, 1992), STG Content-Extrinsic and STG Content-Status have a correlation of .58 ($p < .01$) and LTG Content-Extrinsic and LTG Content-Status have a correlation of .66 ($p < .01$). As such, a primary purpose in the following section will be to determine whether these variables are better modeled as a single goal content variable.

Confirmatory Factor Analysis (CFA)

Using recommendations from Anderson and Gerbing's (1988) two-step approach, fit of the measurement model was examined prior to analysis of the theoretical model. All variables were entered into Mplus 7.2 to conduct a confirmatory factor analysis to assess the extent to which scale items captured the intended constructs. When constructs had more than six items as indicators I created parcels as indicators of the latent variables to reduce the number of parameters estimated and the likelihood of dual loadings across items (Williams & O'Boyle, 2008). Given the large number of items relative to sample size in the current study, parcels enabled me to maintain a better sample size-to-parameter ratio and decreased the likelihood of identification problems in the CFA (Williams & O'Boyle, 2008). Parcels were created using the item-to-construct balance approach presented in Little, Cunningham, Shahar, and Widaman (2002) with the exception of the parcels for the goal quality. Goal quality is multidimensional and comprised of distinct subscales (i.e., difficulty, specificity, commitment), so the items from each subscale were grouped into conceptually relevant parcels. The latter approach maximizes the internal consistency of each parcel for multidimensional latent variables (Williams & O'Boyle, 2008).

I performed three separate CFAs, one for the independent and control variables from Survey 1, one for the mediator and outcomes for the short-term goal model, and another for the mediator and outcomes for the long-term goal model. The results of the CFAs are presented in Table 2. For the hypothesized models, each item or parcel was fit to its relative factor. Model fit was assessed using χ^2, root mean square error of approximation (RMSEA), comparative fit index (CFI), and standardized root mean square residual (SRMR). Good fit is typically indicated by RMSEA and SRMR values less than .08 (Hu & Bentler, 1999) or .10 (Kline, 2005) and CFI values greater than .90 (Hu & Bentler, 1999) or .95 (Kline, 2005).

In the CFA for the independent and control variables, a total of 11 latent constructs were included in each analysis. Three latent constructs were for control variables: met expectations (2 items), POS-financial (4 items), and organizational identification (5 items). The remaining 8 latent constructs were study variables: need for identification (NFI; 3 parcels), occupational self-efficacy (SE; 3 parcels), professional networking (3 parcels), career mentoring (4 items), meaning (3 items), impact (3 items), psychosocial mentoring (4 items), and peer support (4 items). All factor loadings on the specified factors were significant, which indicates that the items and parcels were acceptable indicators for the designated latent variables. As reported in Table 2, the hypothesized eight-factor model for control and independent variables demonstrated good fit. A test of alternative models showed that the hypothesized model had better fit than a seven-factor model where career mentoring and psychosocial mentoring were modeled as a single “mentoring” variable ($\Delta\chi^2 = 609.41$, $\Delta df = 10$, $p < .01$) or a four-factor model where each of the independent variables were combined into four larger theoretical categories (i.e., identity, control, meaning, belonging; $\Delta\chi^2 = 1903.97$, $\Delta df = 34$, $p < .01$).

In the two CFAs for mediator and outcome variables, a total of 4 latent variables were included in the analysis, the only difference being the inclusion of short-term versus long-term goal variables: professional identification (5 items), short/long-term goal quality (3 parcels, respectively), short/long-term goal content - extrinsic (3 items, respectively), short/long-term goal content - status (5 items, respectively). The hypothesized STG model yielded somewhat poor fit. Both the RMSEA and the CFI exceeded the recommendations for reasonable fit suggested by Kline (2005; RMSEA < .10, CFI >.95). Only the SRMR achieved a value less than the recommended .10 cutoff. However, this model generated better fit than rival CFA models where extrinsic and status goal content variables were combined into a single goal content variable ($\Delta\chi^2 = 48.77$, $\Delta df = 2$, $p < .01$), or all goal variables were combined into a single factor ($\Delta\chi^2 = 135.96$, $\Delta df = 4$, $p < .01$).

Similar to the STG model, the LTG model yielded somewhat poor fit. Both the RMSEA and the CFI exceeded the recommendations for reasonable fit suggested by Kline (2005; RMSEA < .10, CFI >.95). Only the SRMR achieved a value less than the recommended .10 cutoff. However, this model generated better fit than rival CFA models where extrinsic and status goal content variables were combined into a single goal content variable ($\Delta\chi^2 = 14.07$, $\Delta df = 2$, $p < .01$), or all goal variables were combined into a single factor ($\Delta\chi^2 = 72.19$, $\Delta df = 4$, $p < .01$).

Although the poor fit indices for both the STG and LTG models independently would normally rule out further steps in the analysis, the overall theoretical model will test all variables simultaneously. When combined into a single model containing control variables, independent variables, the mediator, and outcomes, both the STG model (χ^2 (1272) = 2424.97; RMSEA = .05; CFI = .90; SRMR = .06) and the LTG model (χ^2 (1272) = 2414.56; RMSEA = .05; CFI = .90; SRMR = .06) yield acceptable fit. Therefore, the measurement models were considered adequate to proceed with hypothesis tests.

Table 2: Confirmatory Factor Analysis

Model	χ^2	*df*	RMSEA [90% CI]	CFI	SRMR	$\Delta\chi^2$
CFA for Control and Independent Variables						
1. Hypothesized (8 factor)	996.92	610	.04 [.04, .05]	.95	.04	
2. Mentoring as single factor (7 factor)	1606.33	620	.07 [.07, .07]	.88	.06	609.41**
3. IVs as higher-order constructs (4 factor)	2900.89	644	.10 [10, .11]	.73	.11	1903.97**
CFA of Time 2 Variables: Professional Identification and Short-Term Goals						
1. Hypothesized (4 factor)	502.86	99	.11 [.10, .12]	.76	.08	
2. Extrinsic and Status Goals as single factor (3 factor)	551.63	101	.12 [.11, .13]	.74	.11	48.77**
3. All goal variables as single factor (2 factor)	638.82	103	.13 [.12, .14]	.69	.10	135.96**
CFA of Time 2 & 3 Variables: Professional Identification and Long-Term Goals						
1. Hypothesized (4 factor)	467.31	99	.11 [.10, .12]	.74	.09	
2. Extrinsic and Status Goals as single factor (3 factor)	481.38	101	.11 [.10, .12]	.73	.11	14.07**
3. All goal variables as single factor (2 factor)	539.50	103	.11 [.10, .12]	.69	.10	72.19**

Note: RMSEA = root-mean-square error of approximation; CI = confidence interval; CFI = comparative fit index; SRMR = standardized root-mean-square residual.

**p <.01

I also computed the average variance extracted (AVE) estimates for the 16 factors (Fornell & Larcker, 1981). The AVE estimate is the average amount of variation that a latent construct is able to explain in the observed variable to which it is theoretically related (Farrell, 2010). The values for the control variables were .80 for met expectations, .61 for POS-financial, and .58 for organizational identification. For the model variables, AVE values were .62 for NFI, .57 for occupational SE, .53 for professional networking, .55 for career mentoring, .71 for meaning, .78 for impact, .61 for peer support, .39 for professional identification, .35 for STG Quality, .49 for STG Content–Extrinsic, .47 for STG Content–Status, .32 for LTG Quality, .49 for LTG Content–Extrinsic, and .44 for LTG Content–Status.

A purpose of calculating the AVE is to establish discriminant validity in latent variables (Fornell, 2010). Fornell and Larcker (1981) proposed a method wherein the AVE of each construct is compared to the shared variance between constructs; discriminant validity is supported when the AVE of each construct is greater than its shared variance (i.e., square of the correlation) with any other construct. The relationship may also be expressed such that the square root of the AVE is greater than the raw correlation, and these values are presented along the diagonal of the correlation matrix in Table 1. For all but one of the bivariate relationships the square root of the AVE is greater than the bivariate correlation. In one case the values are equal – LTG Content-Extrinsic ($\sqrt{AVE} = .70$) and LTG Content-Status ($\sqrt{AVE} = .66$) variables are correlated .66. However, considering the results from the CFA and the nature of the values ($\sqrt{AVE}$ of the variables is equal to the correlation rather than less than it) in this case, I believe that there is sufficient evidence of discriminant validity between factors to proceed with model testing. I would also like to note that the correlations between the STG–Content and LTG-Content variables are higher than the $\sqrt{AVE}$ values, but hypothesis testing is done separately for STG and LTG models, so there is no need to demonstrate discriminant validity between these variables.

Hypothesis Testing

After assessing model fit of the measurement model, the theoretical model was also tested using structural equation modeling (SEM; Mplus 7.2) with maximum-likelihood estimation. Any missing data was coded as such in the data file; this analysis requires the assumption that data are missing completely at random, uses pairwise deletion (Muthen & Muthen, 2007), and computes standard errors for parameter estimates based on the observed information matrix (Kenward & Molenberghs, 1998).

Paths for the three theoretical control variables (met expectations, organizational identification, POS-financial) were estimated between the controls and the mediator and the controls and all outcomes. Single item demographic or program-related control variables were included as latent variables with the error variance set to zero. Demographic and program-related variables were included as controls when suggested by significant bivariate correlations and the potential that they may bias or offer alternative explanations of results. However, if the paths in the final model were not significant, these paths were subsequently removed. This strategy was based on recommendations against including "impotent" control variables (Becker, 2005). That is, if control variables are not related to dependent variables in the model, then their inclusion simply reduces power without modeling meaningful effects (Aguinis & Vandenberg, 2014). Accordingly, the STG model contains paths from *finish on time* to professional identification and from *degree type* to STG Quality. The LTG model contains paths from *finish on time* to professional identification and LTG Quality and from *professional work experience* and *international student* to LTG Content–Status. Below, I first discuss the findings related to the STG model followed by a discussion of the findings from the LTG model.

Short-term Goal Model. The fit of the hypothesized STG model was compared to a model including only control variables, and then to six alternative path models as reported in Table 3. The first model comparison was between a model including only paths from the five control variables to their relevant outcomes. The hypothesized fully mediated model (model 2) fits the data significantly better than the model with only controls ($\Delta\chi^2 = 63.80$, $\Delta df = 8$, $p < .01$). Next, I compared the hypothesized model to six partially mediated models which included direct paths from the independent variables to the goal outcomes; each partially-mediated model is detailed in Table 3. Including paths from the identity-related variables (need for identification and occupational self-efficacy; $\Delta\chi^2 = 32.53$, $\Delta df = 6$, $p < .01$) and the meaning-related variables (meaning and impact; $\Delta\chi^2 = 30.17$, $\Delta df = 6$, $p < .01$) to goal outcomes significantly improved model fit from the hypothesized model. Including paths from and the control-related variables (networking and career mentoring; $\Delta\chi^2 = 17.41.17$, $\Delta df = 6$, $p < .01$) also significantly improved model fit; however, none of the direct paths from control variables were significantly related to the outcome variables. I also tested a model that included paths from all of the independent variables to the goal outcomes. Although this model demonstrated significantly better fit than the hypothesized model ($\Delta\chi^2 = 67.75$, $\Delta df = 24$, $p < .01$), none of the paths from the control-related variables or belonging-related variables (psychosocial mentoring and peer support) were significantly related to any of the outcome variables. Therefore, because it is more parsimonious, I report and interpret findings from the partially mediated Model 7 (in Table 3) which only includes direct paths from the identity and meaning variables to the goal outcomes. Next, I discuss the same process of model comparison in the LTG model.

Table 3. Structural Model Fit for Short Term Goals as Outcomes

Model	χ^2	*df*	RMSEA [90% CI]	CFI	SRMR	$\Delta\chi^2$
1. Only Control Variables	2796.1	1410	.05 [.05, .06]	.91	.08	
2. Fully mediated (hypothesized)	2732.3	1402	.05 [.05, .06]	.92	.07	
3. Partially mediated (Identity IVs to all outcomes)	2699.77	1396	.05 [.05, .06]	.92	.07	32.53*
4. Partially mediated (Control IVs to all outcomes)	2714.89	1396	.05 [.05, .06]	.92	.07	17.41*
5. Partially mediated (Meaning IVs to all outcomes)	2702.13	1396	.05 [.05, .06]	.92	.07	30.17*
6. Partially mediated (Belonging IVs to all outcomes)	2720.73	1396	.05 [.05, .06]	.92	.07	11.57
7. Partially mediated (Identity & Meaning IVs to all outcomes)	2679.43	1390	.05 [.05, .06]	.92	.07	52.87*
8. Partially mediated (All IVs to all outcomes)	2664.55	1378	.05 [.05, .06]	.92	.07	67.75*

Note: $N = 312$. All models are compared to fully mediated model. RMSEA = root-mean-square error of approximation; CI = confidence interval; CFI = comparative fit index; SRMR = standardized root-mean-square residual.

Long-term Goal Model The fit of the hypothesized LTG model was compared to a model including only control variables, and then to six alternative path models as reported in Table 4. The first model comparison was between a model including only paths from the five control variables to their relevant outcomes. The hypothesized fully mediated model fits the data significantly better than the model with only controls ($\Delta\chi^2 = 66.84$, $\Delta df = 8$, $p < .01$). Next, similar to the model testing with STG goals, I compared the hypothesized model to six partially mediated models which included direct paths from the independent variables to the goal outcomes. Including paths from the identity-related variables (need for identification and occupational self-efficacy) to goal outcomes significantly improved model fit ($\Delta\chi^2 = 35.82$, $\Delta df = 6$, $p < .01$). Including paths from the meaning-related variables (meaning and impact) also significantly improved model fit from the hypothesized model $\Delta\chi^2 = 52.23$, $\Delta df = 6$, $p < .01$). I also tested a model that included paths from all of the independent variables to the goal outcomes. Although this model demonstrated significantly better fit than the hypothesized model ($\Delta\chi^2 = 93.93$, $\Delta df = 24$, $p < .01$), none of the paths from the control-related variables (networking and career mentoring) or belonging-related variables (psychosocial mentoring and peer support) were significantly related to any of the outcome variables. Therefore, because it is more parsimonious, I report and interpret findings from the best-fitting, partially mediated model which includes direct paths from the identity and meaning variables to the goal outcomes (see Model 7 in Table 4). Next, I evaluate the hypotheses with results from the partially mediated model for both the STG and LTG models.

Table 4. Structural Model Fit for Long-term Goals as Outcomes

Model	χ^2	*df*	RMSEA [90% CI]	CFI	SRMR	$\Delta\chi^2$
1. Only Control Variables	2895.99	1462	.05 [.05, .06]	.91	.08	
2. Fully mediated (hypothesized)	2829.15	1454	.05 [.05, .06]	.91	.07	
3. Partially mediated (Identity IVs to all outcomes)	2793.33	1448	.05 [.05, .06]	.91	.07	35.82*
4. Partially mediated (Control IVs to all outcomes)	2816.61	1448	.05 [.05, .06]	.92	.07	12.54
5. Partially mediated (Meaning IVs to all outcomes)	2776.92	1448	.05 [.05, .06]	.92	.07	52.23*
6. Partially mediated (Belonging IVs to all outcomes)	2819.50	1448	.05 [.05, .06]	.92	.07	9.65
7. Partially mediated (Identity & Meaning IVs to all outcomes)	2752.93	1442	.05 [.05, .06]	.92	.07	76.22*
8. Partially mediated (All IVs to all outcomes)	2735.22	1430	.05 [.05, .06]	.92	.07	93.93*

Note: N = 243. All models are compared to fully mediated model. RMSEA = root-mean-square error of approximation; CI = confidence interval; CFI = comparative fit index; SRMR = standardized root-mean-square residual.

I evaluate the hypotheses independently for both STG and LTG models based on the significance of the standardized path coefficients. Tests of the hypotheses were conducted using Bonferroni adjusted alpha levels of .025 per test (.05/2) as I tested each hypothesis twice, once in the STG model and once in the LTG model. First, I evaluate the STG model which is presented in Figure 3. Hypotheses 1-8 predicted that identity related variables would be related to professional identification. For identity-related variables, hypothesis 1 predicted a positive relationship between need for identification and professional identification, which was supported ($\beta = .34$, $p < .01$) and hypothesis 2 predicted a positive relationship between occupational self-efficacy and professional identification, which was not supported ($\beta = .00$, *ns*). For control-related variables, hypothesis 3 predicted a positive relationship between networking and professional identification and hypothesis 4 predicted a positive relationship between career mentoring and professional identification, but neither hypothesis was supported, ($\beta_{\text{networking}} = .06$, *ns*; $\beta_{\text{career mentoring}} = -.03$, *ns*). For meaning-related variables, hypothesis 5 predicted a positive relationship between meaning and professional identification and hypothesis 6 predicted a positive relationship between impact and professional identification, but neither hypothesis was supported, ($\beta_{\text{meaning}} = .10$, *ns*; $\beta_{\text{impact}} = .06$, *ns*). For the belonging-related variables, hypothesis 7 predicted a positive relationship between psychosocial mentoring and professional identification, which was supported ($\beta = .16$, $p < .025$) and hypothesis 8 predicted a positive relationship between peer support and professional identification, which was not supported ($\beta = .06$, *ns*).

Moving on to the hypotheses from professional identification to short-term goal outcomes, hypothesis 9 predicted a positive relationship between professional identification and STG quality, which was supported ($\beta = .19$, $p < .025$). Hypothesis 10a and 10b predicted that professional identification would be positively related to STG Content-Extrinsic and STG Content-Status. Professional identification was related to STG Content-Extrinsic ($\beta = .26$, $p < .025$), supporting hypothesis 10a, but was not related to STG Content-Status ($\beta = .03$, *ns*), which does not support hypothesis 10b.

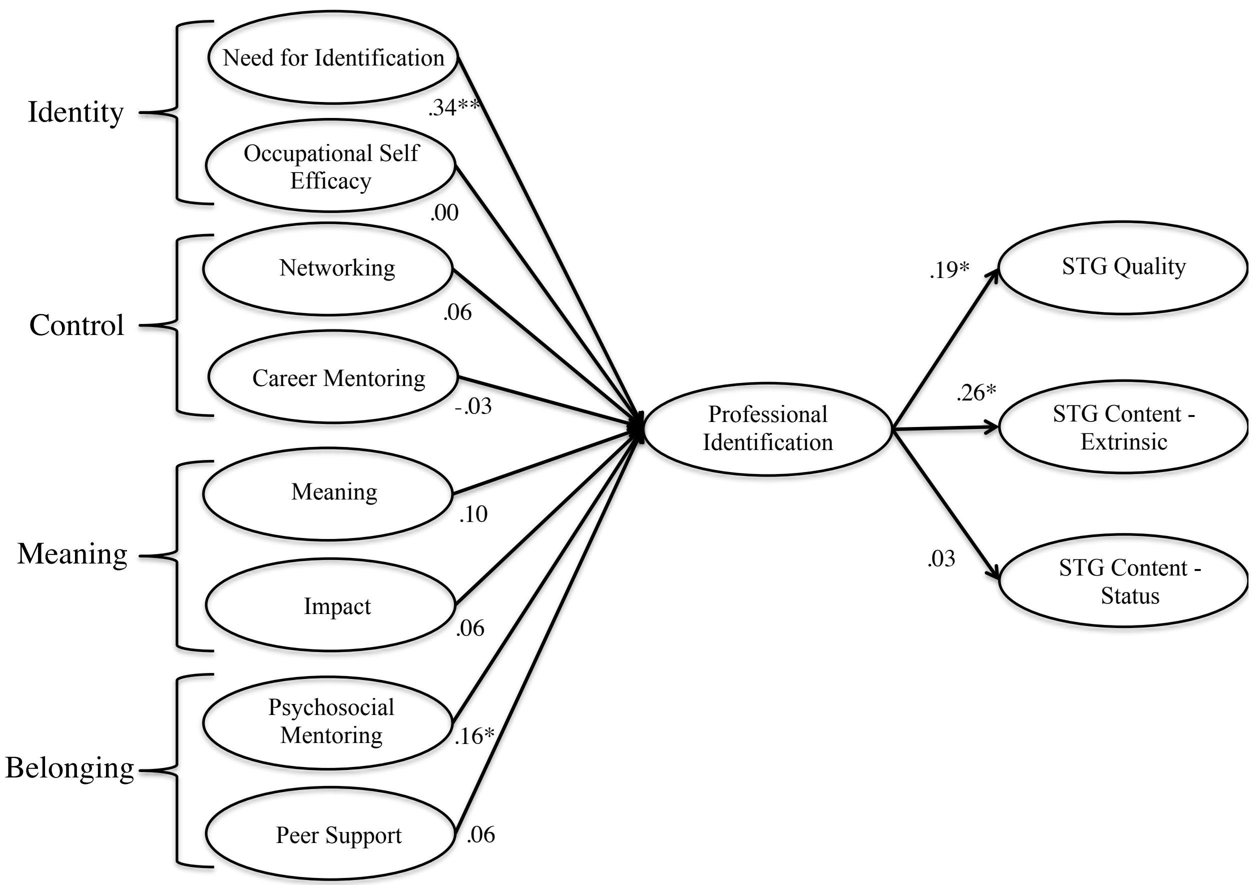
The partially mediated model also included direct paths from the identity- and meaning-related variables to goal outcomes. These direct paths, along with the indirect effects of all the independent variables on the goal outcomes through professional identification are listed in Table 5. Four of the twelve direct paths from the independent variables to the outcomes are significant. Need for identification is positively related to both STG Content-Extrinsic ($\beta = .24$, $p < .025$) and STG Content-Status ($\beta = .35$, $p < .01$). In addition, meaning is positively related to STG Content-Status ($\beta = .22$, $p < .025$) while impact is negatively related to STG Content-Status ($\beta = -.19$, $p < .01$). The only significant indirect effect is from need for identification to STG Content-Extrinsic through professional identification, which is in line with the pattern of direct effects.

In addition to the hypothesized paths, each of the goal outcome variables was allowed to freely correlate. STG quality was related to STG Content-Extrinsic ($r = .30$, $p < .01$) and to STG Content-Status ($r = .30$, $p < .01$). STG Content-Extrinsic and STG Content-Status were highly correlated ($r = .38$, $p < .01$), which was not unexpected given the large bivariate correlations from the descriptive statistics.

Of the theoretical control variables included in the model, organizational identification was significantly positively related to professional identification ($\beta = .34$, $p < .01$) and STG Content-Status ($\beta = .23$, $p < .01$). Of the program-related control variables included in the model, perceived organizational financial support was negatively related to

STGQ (β = -.12, $p < .01$), such that less financial support from the department was associated with higher short term goal quality. The second program-related control variable, degree type (MA/MS or PhD) was positively related to STGQ (β = .20, $p < .025$), such that that pursuing a PhD was related to higher goal quality.

Figure 3: Results of Partially Mediated Short-term Goal Model



Notes: N = 312; standardized path estimates are reported.
The partially mediated model contains paths from the identity and meaning variables to all goal outcomes. For the sake of clarity, direct paths are included in Table 5.
Control variables are not depicted here but include paths from Met Expectations, POS-Financial, and Organizational Identification to Professional Identification and all goal outcomes. Additional paths include Finish on Time to Professional Identification and Degree Type to STG Quality.
* $p < .05$. ** $p < .01$

Table 5: Direct and Indirect Effects from Identity Variables to Short-term Goal Outcomes

Outcome	Path	Standardized Path Estimate	95% CI
STG Quality	**Need for Identification**	**.01**	**-.20; 22**
	Need for Identification ➔ Professional Identification	.05	-.04; .12
	Occupational Self Efficacy	**.24***	**.05; .43**
	Occupational Self Efficacy ➔ Professional Identification	-.01	-.05; .03
	Networking ➔ Professional Identification	.00	-.03; .04
	Career Mentoring ➔ Professional Identification	-.01	-.04; .02
	Meaning	**.37***	**.09; .65**
	Meaning ➔ Professional Identification	.01	-.05; .06
	Impact	**-.02**	**-.25; .21**
	Impact ➔ Professional Identification	.02	-.03; .07
	Psychosocial Mentoring ➔ Professional Identification	.02	-.02; .07
	Peer Support ➔ Professional Identification	.01	-.04; .05
STG Content - Extrinsic	**Need for Identification**	**.24***	**.03; .45**
	Need for Identification ➔ Professional Identification	.11*	.02; .21
	Occupational Self Efficacy	**-.05**	**-.24; .14**
	Occupational Self Efficacy ➔ Professional Identification	-.01	-.06; .04
	Networking ➔ Professional Identification	.01	-.04; .07
	Career Mentoring ➔ Professional Identification	-.02	-.06; .02
	Meaning	**-.14**	**-.42; .14**
	Meaning ➔ Professional Identification	.01	-.06; .08
	Impact	**-.02**	**-.24; .20**
	Impact ➔ Professional Identification	.02	-.04; .08
	Psychosocial Mentoring ➔ Professional Identification	.03	-.01; .08
	Peer Support ➔ Professional Identification	.01	-.03; .05

Note: $N = 321$. CI = confidence interval; direct paths are bolded

* $p < .05$. ** $p < .01$

Table 5 (continued)

Outcome	Path	Standardized Path Estimate	95% CI
STG Content - Status	**Need for Identification**	**.35****	**.16; .54**
	Need for Identification ➔ Professional Identification	.02	-.07; .11
	Occupational Self Efficacy	**.14**	**-.03; .31**
	Occupational Self Efficacy ➔ Professional Identification	.01	-.04; .02
	Networking ➔ Professional Identification	.00	-.03; .04
	Career Mentoring ➔ Professional Identification	.00	-.03; .02
	Meaning	**.22***	**.04; .40**
	Meaning ➔ Professional Identification	-.01	-.06; .04
	Impact	**-.19***	**-.36; -.02**
	Impact ➔ Professional Identification	.00	-.04; .04
	Psychosocial Mentoring ➔ Professional Identification	.00	-.02; .02
	Peer Support ➔ Professional Identification	.00	-.02; .02

Note: $N = 321$. CI = confidence interval; direct paths are bolded

* $p < .05$. **$p < .01$

I now evaluate my model and hypotheses in reference to the LTG model which is presented in Figure 4. Hypotheses 1-8 predicted that identity related variables would be related to professional identification. For identity-related variables, hypothesis 1 predicted a positive relationship between need for identification and professional identification, which was supported ($\beta = .34$, $p < .01$) and hypothesis 2 predicted a positive relationship between occupational self-efficacy and professional identification, which was not supported ($\beta = .01$, *ns*). For control-related variables, hypothesis 3 predicted a positive relationship between networking and professional identification and hypothesis 4 predicted a positive relationship between career mentoring and professional identification, but neither hypothesis was supported, ($\beta_{networking} = .05$, *ns*; $\beta_{career\ mentoring} = -.02$, *ns*). For meaning-related variables, hypothesis 5 predicted a positive relationship between meaning and professional identification and hypothesis 6 predicted a positive relationship between impact and professional identification, but neither hypothesis was supported, ($\beta_{meaning} = .10$, *ns*; $\beta_{impact} = .06$, *ns*). For the belonging-related variables, hypothesis 7 predicted a positive relationship between psychosocial mentoring and professional identification, which was supported ($\beta = .17$, $p < .05$) and hypothesis 8 predicted a positive relationship between peer support and professional identification, which was not supported ($\beta = .06$, *ns*).

Moving on to the hypotheses from professional identification to long-term goal outcomes, hypothesis 9 predicted a positive relationship between professional identification and LTG quality, which was not supported ($\beta = -.10$, *ns*). Hypothesis 10a and 10b predicted that professional identification would be positively related to LTG Content-Extrinsic and LTG Content-Status. Professional identification was related to LTG Content-Extrinsic (β

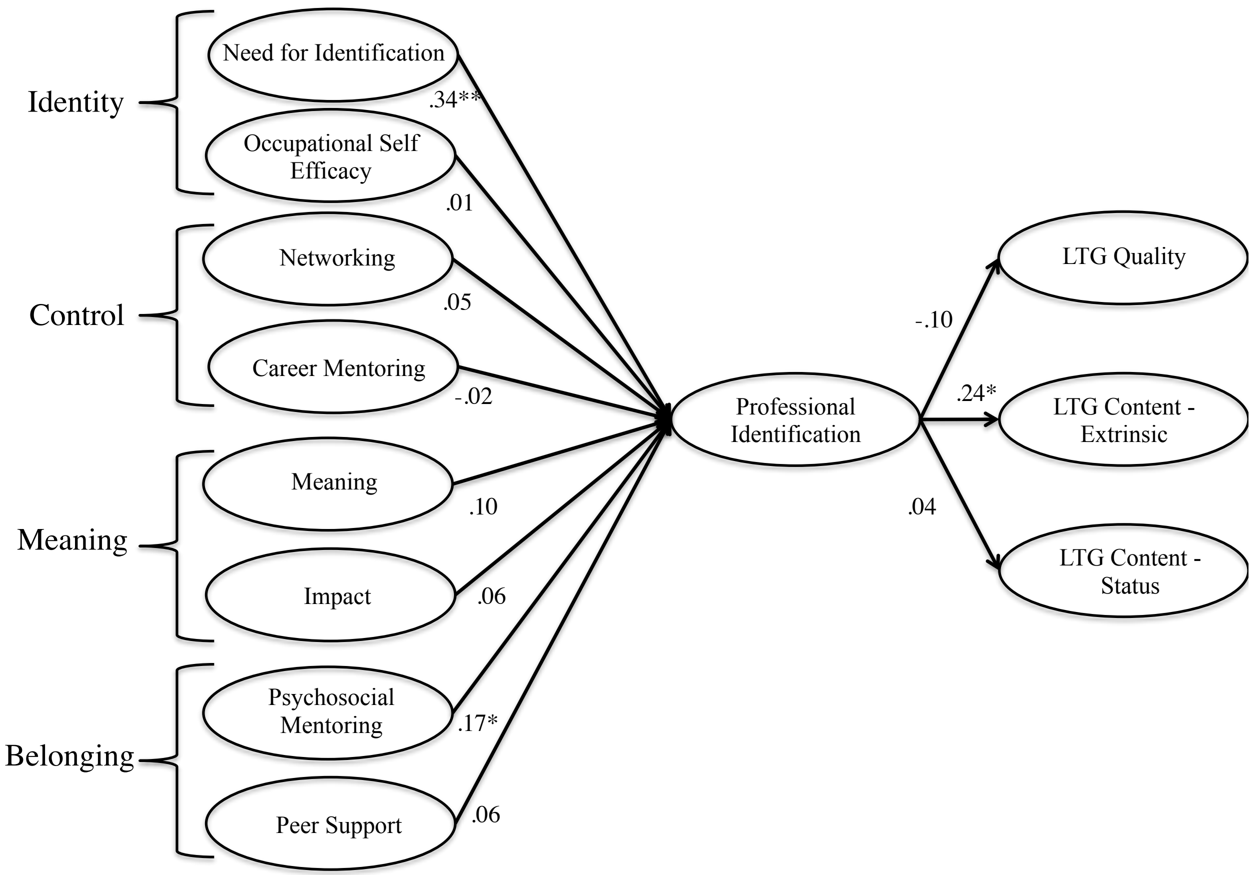
= .24, $p < .025$), supporting hypothesis 10a, but was not related to LTG Content-Status (β = .04, *ns*), which does not support hypothesis 10b.

The retained partially mediated model also included direct paths from the identity- and meaning-related variables to goal outcomes. These direct paths, along with the indirect effects of all the independent variables on the goal outcomes through professional identification are listed in Table 6. Five of the twelve direct paths from the independent variables to the outcomes are significant. Both occupational self-efficacy ($\beta = .24$, $p < .025$) and meaning ($\beta = .49$, $p < .025$) are positively related to LTG Quality. Need for identification is positively related to both LTG Content-Extrinsic ($\beta = .22$, $p < .025$) and LTG Content-Status ($\beta = .44$, $p < .01$). In addition, impact is negatively related to LTG Content-Status ($\beta = -.15$, $p < .025$). There are no significant indirect effects in the model.

In addition to the hypothesized paths, each of the goal outcome variables was allowed to freely correlate. LTG Quality was not related to LTG Content-Extrinsic ($r = .15$, *ns*) or to LTG Content-Status ($r = .11$, *ns*). LTG Content-Extrinsic and LTG Content-Status were highly correlated ($r = .51$, $p < .01$), which was not unexpected given the large bivariate correlations from the descriptive statistics.

Of the theoretical control variables included in the model, organizational identification was significantly positively related to professional identification ($\beta = .34$, $p < .01$). Of the program-related control variables included in the model, finishing on time (yes/no) was positively related to professional identification ($\beta = .16$, $p < .025$) suggesting that being on track to finish one’s program on time was associated with higher levels of professional identification. The second program-related control variable, professional work experience (yes/no) was negatively related to LTG Content-Status ($\beta = -.11$, $p < .025$), suggesting that individuals with professional work experience reported fewer status goals. The third program-related control, international student (yes/no) was positively related to LTG Content-Status (β = .19, p < .025), such that international students reported more status goals than their domestic counterparts.

Figure 4: Results of Partially Mediated Long-term Goal Model



Notes: N = 243; standardized path estimates are reported.
The partially mediated model contains paths from the identity and meaning variables to all goal outcomes. For the sake of clarity, direct paths are included in Table 6.
Control variables are not depicted here but include paths from Met Expectations, POS-Financial, and Organizational Identification to Professional Identification and all goal outcomes. Additional paths include Finish on Time to Professional Identification and LTG Quality; and Professional Work Experience and International Student to LTG Content-Status.
* p < .05. **p <.01

Table 6: Direct and Indirect Effects from Identity Variables to Long-term Goal Outcomes

Outcome	Path	Standardized Path Estimate	95% CI
LTG Quality	**Need for Identification**	**.10**	**-.13; 33**
	Need for Identification ➔ Professional Identification	-.03	-.12; .07
	Occupational Self Efficacy	**.24***	**.04; .44**
	Occupational Self Efficacy ➔ Professional Identification	.01	-.04; .03
	Networking ➔ Professional Identification	.01	-.07; .02
	Career Mentoring ➔ Professional Identification	-.01	-.01; .04
	Meaning	**.49***	**.19; .79**
	Meaning ➔ Professional Identification	-.01	-.10; .02
	Impact	**-.10**	**-.36; .16**
	Impact ➔ Professional Identification	-.01	-.05; .02
	Psychosocial Mentoring ➔ Professional Identification	-.01	-.05; .03
	Peer Support ➔ Professional Identification	.00	-.03; .02
LTG Content - Extrinsic	**Need for Identification**	**.22***	**-.02; .46**
	Need for Identification ➔ Professional Identification	.09	-.03; .19
	Occupational Self Efficacy	**.04**	**-.18; .26**
	Occupational Self Efficacy ➔ Professional Identification	.00	-.06; .07
	Networking ➔ Professional Identification	.02	-.05; .10
	Career Mentoring ➔ Professional Identification	-.01	-.05; .04
	Meaning	**-.06**	**-.38; .26**
	Meaning ➔ Professional Identification	.02	-.02; .15
	Impact	**-.12**	**-.38; .14**
	Impact ➔ Professional Identification	.02	-.05; .08
	Psychosocial Mentoring ➔ Professional Identification	.03	-.02; .07
	Peer Support ➔ Professional Identification	.01	-.03; .06

Note: $N = 243$. CI = confidence interval; direct paths are bolded

* $p < .05$. ** $p < .01$

Table 6 (continued)

Outcome	Path	Standardized Path Estimate	95% CI
LTG Content - Status	**Need for Identification**	**.44****	**.24; .64**
	Need for Identification ➔ Professional Identification	.01	-.10; .13
	Occupational Self Efficacy	**.02**	**-.17; .21**
	Occupational Self Efficacy ➔ Professional Identification	.00	-.03; .04
	Networking ➔ Professional Identification	.00	-.02; .02
	Career Mentoring ➔ Professional Identification	.00	-.01; .02
	Meaning	**.05**	**-.24; .34**
	Meaning ➔ Professional Identification	.00	-.04; .03
	Impact	**-.15***	**-.29; -.01**
	Impact ➔ Professional Identification	.00	-.04; .04
	Psychosocial Mentoring ➔ Professional Identification	.00	-.04; .03
	Peer Support ➔ Professional Identification	.00	-.03; .03

Note: N = 243. CI = confidence interval; direct paths are bolded

* p < .05. **p <.01

An overall summary of hypothesis testing results is displayed in Table 7. The only difference between the STG and LTG models was the inclusion of short-term versus long-term goals as outcomes and sample size (n = 312 versus n = 243), respectively. Therefore, consistency in hypotheses 1-7, which relate independent variables to professional identification is expected and consistent with the results. For the professional identification to goal outcome hypotheses, there was only one hypothesis that was supported in one model and not the other. For hypothesis 9, professional identification was related to short-term, but not long term goal quality. Hypothesis 10a (supported) and 10b (not supported) were consistent across both STG and LTG models.

Table 7: Summary of Hypothesis Testing

Hypothesis	Outcome	
	STG Model	**LTG Model**
H1. Need for identification is positively related to professional identification.	Supported	Supported
H2: Occupational self-efficacy is positively related to professional identification.	NS	NS
H3: Networking is positively related to professional identification.	NS	NS
H4: Career mentoring is positively related to professional identification.	NS	NS
H5: Meaning is positively related to professional identification.	NS	NS
H6: Impact is positively related to professional identification.	NS	NS
H7: Psychosocial mentoring is positively related to professional identification.	Supported	Supported
H8: Peer support is positively related to professional identification.	NS	NS
H9: Professional identification is positively related to goal quality.	Supported	NS
H10a: Professional identification is positively related to extrinsic goals	Supported	Supported
H10b: Professional identification is positively related to status goals	NS	NS

Note: STG = Short-term goal; LTG = long-term goal; NS = not supported

CHAPTER 7. DISCUSSION

The overarching purpose of this study was to quantitatively test Ashforth's (2001) model of role transitions in organizations. I was specifically interested in professional identification and how it relates to the types of career goals graduate students have. In order to test the model I completed two studies. The first study was a qualitative analysis used to (1) identify measures corresponding to Ashforth's (2001) four psychological motives (i.e., identity, control, meaning, and belonging) as antecedents of identification and (2) representative measures of career goals for graduate students. These ideas, along with social identity theory (Tajfel & Turner, 1979) provided the foundation of the theoretical model presented in the second, quantitative study. I tested the theoretical model separately in regards to both short-term and long-term career goals. In the STG model, four of the proposed eleven hypotheses were supported, whereas in the LTG model, three of the proposed eleven hypotheses were supported. In the following pages I outline the main findings in the study, consider the theoretical and then practical implications, and end with a discussion of the strengths and weaknesses of the study.

Overview of Findings

I hypothesized a fully mediated model wherein variables representing Ashforth's (2001) psychological motives of identity, control, meaning, and belonging were expected to positively relate to professional identification. In both the STG and LTG models, only two of the proposed eight motive variables, need for identification and psychosocial mentoring, were related to professional identification. Need for identification, which was included under the identity motive, is conceptualized as developing a good image of oneself thanks to the sense of belonging to a prestigious group (Kreiner & Ashforth, 2004). Graduate students who were high in the need for identification reported higher levels of professional identification. This finding is consistent with previous work showing a positive relationship between need for identification and organizational identification (Kreiner & Ashforth, 2004; Mignonac et al., 2006) and supports the rationale that individuals with a high need for identification have a propensity to identify with social objects, whether it be organizational or professional (Glynn, 1998).

Next, psychosocial mentoring, which was included under the belonging motive and is based on interpersonal aspects of the relationship between mentor and protégé such as providing friendship and advice (Kram, 1985), was also positively related to professional identification. Here, comparison between the two types of mentoring and the source of the mentoring are notable. Whereas psychosocial mentoring from a faculty advisor was positively related to professional identification, career mentoring from a faculty advisor has no relationship with professional identification. Considering that identification process at their core draw from inclusion in "in-groups," it appears that graduate students are more likely to consider themselves as part of the professional in-group when they have faculty mentors who engage with them on a personal level, rather than mentors who focus on their career-related success. Also, the source of the psychosocial support is important. Psychosocial mentoring from peers, included as peer support in the current study, was not related to professional identification. Therefore it appears that social support specifically from faculty advisors, rather than peers, is key factor in developing professional identification.

Because it provided a better fit to the data for both the STG and LTG models, I retained a partially mediated model that included direct paths from four variables within the identity and meaning motives to each of the goal outcomes. First I discuss the findings from the STG model, where, in addition to being related to professional identification, need for identification was also positively related to short-term goals with both extrinsic and status content. Because need for identification refers to an individual's need to maintain a social identity derived from membership in a larger group (Glynn, 1998), it appears that one way to legitimize one's identity in relation to a professional group may be by setting short-term goals which contain externally measureable content consistent with professional standards. For example, a short-term goal which entails working at a well-known, prestigious university (i.e., high status) would clearly indicate to other professionals that a graduate student is pursuing immediate goals consistent with high status within the academic profession.

In the STG model, two variables representing the meaning motive were also directly related to short-term goal outcome variables; both meaning and impact were related to short-term status goals, but in opposing directions. Broadly, the meaning *motive* refers to a sense of purpose and significance associated with a role beyond the role's obvious formal duties and requirements (Ashforth, 2001) and was measured with two variables: meaning and impact. In the model, the meaning *construct* was positively related to short-term goals with status content; meaning, again, refers to the value of a work goal or purpose which is judged against one's own ideals and standards (Spreitzer, 1995). Students who are motivated by meaningfulness (purpose) in their careers may subsequently set high status goals for themselves because associations with high-status individuals or institutions enables one to be viewed positively (Blau, 1964, Sauder, Lynn, Podolny, 2012). High status goals, then, act to increase self-esteem; when one's identity is closely tied to one's work then picturing a high status or prestigious goal for oneself can enhance self-esteem (Ashforth & Mael, 1989).

Although impact, or the extent to which employees feel that their work improves the welfare of others (Grant, 2008; Grant et al., 2007; Hackman & Oldam, 1976; Steers & Mowday, 1977), was negatively related to short-term goals with status content, I recommend caution in interpreting this result as it may be, in part, due to mutlicollinearity between the meaning and impact variables. More specifically, impact has a positive bivariate correlation with status goals ($r = .12$) but a negative standardized path coefficient ($\beta = -.19$). Given that the correlation between meaning and impact is large ($r = .69$), it is possible that the relationship between both the meaning and impact variables and outcomes variables contains bias (Mela & Kopalle, 2002), and thus should be interpreted with caution.

Moving now to findings related to the partially mediated LTG model, occupational self-efficacy was positively related to goal quality, demonstrating that graduate students who have stronger beliefs in their own capabilities set goals that are more specific, difficult, and to which they are committed. This finding presents an interesting mediating step that may explain the established relationship between self-efficacy and performance (e.g., Judge & Bono, 2001; Stajkovic & Luthans, 1998). That is, part of the reason individuals with high self-efficacy may be better performers is that they set higher quality goals for themselves, which in turn leads to better performance (Locke & Latham, 1994). Just as in the STG model, need for identification was positively related to goals with both extrinsic and status content.

Last, I discuss the relationship between professional identification and goal outcome variables. In the STG model, professional identification was positively related to goal quality and extrinsic goals. Thus, for graduate students contemplating their immediate, short-term goals upon graduation, higher levels of professional identification are positively associated with setting goals of higher quality (i.e., personal goals which are difficult, specific, and to which the student is committed) and with goals containing extrinsic content (i.e., focused on obtaining rewards and positive evaluations from others). In the LTG model, professional identification was positively related only to extrinsic goals. When considering goals that one would like to achieve sometime in the course of one's career, graduate students with higher levels of professional identification were more likely to have long-term goals related to a desire to have a high income or salary, but those goals were not necessarily of high quality as they were for short-term goals.

Theoretical Implications

This study contributes to the limited work assessing the importance of identity development in role transition processes (Ashforth, 2001) by assessing psychological motives related to professional identification in a sample of graduate students transitioning into the professional field. The pilot study identified several measurable constructs for graduate students that aligned with Ashforth's identity motives; however, a quantitative test of those variables yielded limited findings. Only two variables, need for identification and psychosocial mentoring, were related to professional identification. One potential reason for this could be large degree of overlap between the between identity motive constructs as indicated by their bivariate correlations. Ashforth (2001) notes that the four motives may be complementary – that is, variables may address multiple motives simultaneously. Therefore, need for identification and psychosocial mentoring may influence more than the identity and belonging motives to which they were assigned in the current study. Another possibility is that identity and belonging motives may simply be the most effective predictors of identification. Although Ashforth's model implies that each of the motives receive equal weight in predicting identification, it is possible that some motives may be more important that others in developing an identity within the role transition process.

This study also contributes to Ashforth's (2001) model of role transitions by extending the theory to the professional level. The original model was conceptualized as a model of transitioning into a job within an organization, whereas the current study examined graduate students transitioning into a profession. It is possible, however, that one reason for the lack of support between the identity motives and professional identification could be testing the model in this adapted context. Transitioning into an organization is arguably a more concentrated and time-limited process than the 2-5 years one spends in graduate school transitioning into professional work. Therefore, developing a professional identity may involve different motives or processes than those proposed for organizational transitions. For example, because graduate school has a limited duration, belonging motives associated with peers and/or coworkers may relate to identity processes at the organizational level but not at the professional level. That is, peer or cohort members may affect whether students feel they "belong in" their particular program within the university, not whether they "belong in" the profession itself since they are not likely to work with the majority of their peers once they have completed the graduate program. The importance of belonging with ones peers or coworkers may only relate to professional identification once graduate students are employed post graduation.

I also expanded on Ashforth's (2001) model and contribute to social identity theory (SIT) (Stryker & Burke, 2000) by including goal variables as outcomes of identification processes. Ashforth (2001) proposes that each of the four identity motives leads to role identification which, in turn, leads to enacting a role identity and to role-relevant outcomes.

Role-relevant outcomes often include variables such as improved performance; however, an important mediating step, especially for professionals, is the creation of group-relevant (e.g., organization, profession) goals as a precursor to performance. As such, an important contribution of the current study is demonstrating that identity process and identification are related to goals aligned with standards from one's referent group (i.e., extrinsic goals). This finding is consistent with the self-verification process in SIT in which goal-directed behavior is driven to match the identity standard (Stryker & Burke, 2000).

Last, this study contributes to goal setting theory by examining the content and characteristics of goals in the career context. Setting goals for one's one career is often done absent formal goal setting mechanisms – yet this context has received sparse attention in both the goal setting and careers literature. Currently, the career context for goal setting largely addresses the content of individual career goals in a tangential fashion (e.g., assessing distance from career goals, goal importance, goal progress; Maier & Brunstein, 2001; Noe, 1996; Noe, Noe, & Bachhuber, 1990). I expanded on this research in showing that professional identification is related to the creation of short-term goals which are specific, difficult, and to which one is committed, the primary criteria for effective goals in the goal setting literature (Locke & Latham, 1994).

Practical Implications

This study has practical implications for graduate students, advisors, and professionals as a whole. First, for graduate students and advisors it appears that positive psychosocial mentoring experiences such as role modeling, acceptance, counseling, and friendship are more important for creating a sense of professional identity than is career mentoring. This is interesting in that a strong emotional bond (Kram, 1985) developed through psychosocial mentoring with a faculty advisor, but not with peers, leads graduate students to develop a sense of belonging with a professional group as a whole. Accordingly, advisors should recognize the importance of providing friendship and other related behaviors for their protégés. Caution should be taken, however, when emphasizing the importance of one type of mentoring over the other. Meta-analytic findings reveal that psychosocial mentoring is more strongly related to subjective measures of career success (i.e., career satisfaction, job satisfaction) whereas career mentoring is more strongly related to objective measures of career success (i.e., compensation, promotion; Allen et al., 2004). Therefore, even though career mentoring was not related to professional identification or goals within the current study, graduate students should still seek out mentor(s) who fulfill both career and psychosocial mentoring roles as both relate to career success.

An interesting finding of the current study relates to the differential relationship between the meaning and impact motives and status goals. Although meaning (individual purpose) of work was associated with setting high status goals for oneself, impact (well-being of others) was negatively related to high status goals. This finding suggests that graduate students do not associate high status positions with improving the well-being of others. One potential explanation for graduate students hoping to enter the academic field is that high status positions are generally considered to be tenure-track positions at large, research institutions where the university mission focuses on research as opposed to teaching. In contrast, positions at teaching schools are generally seen as lower status. Thus, if a graduate student develops a sense of identity through processes associated with improving the well-being of students, it may be that they consider lower status-jobs as an opportunity to do so.

This study also has important implications for understanding professionals and professional workers. First, socialization into the profession is a process that begins within graduate school, and the extent that an individual develops a relationship with the profession appears to be partially determined by individual characteristics (need for identification) and external actors (psychosocial mentoring). Second, professional identification is positively related to both short-and long-term extrinsic goals, suggesting that graduate students who have internalized the goals and objectives of the profession see that a way to solidify their standing is to obtain a position in which they are highly paid. This is consistent with several studies of law and business students which have found that students identified with their chosen occupation because the profession represented the ability to have the “salary, prestige, and lifestyle of the upper middle class” (Schleef, 2000, p. 156) or social status and monetary rewards associated with their professional work (Greenfield, 1992).

Thus professionals and professional associations should recognize that many graduate students identify with the profession, not out of altruistic motives to help people or seek social justice, but rather to further personal, extrinsic career goals. Being motivated to pursue a professional career in large part "for the money" does not imply that all professional workers are materialistic and selfish; many are likely to also have nonmaterialistic and generous goals. However, professional associations and universities could offer financial support and emphasize the status of professionals who pursue lower salaried jobs for more altruistic motives. For example, law associations could provide grants for lawyers who become public defenders, or professional associations could encourage donation of time/resources for professional workers to provide services for individuals or organizations that may not usually be able to afford them. In this way, professional associations may encourage goals that further altruistic motives.

Strengths and Limitations

This study has several strengths and weaknesses. A strength of this research is the mixed-methods approach to data collection and analysis. Although Ashforth (2001) presented a broad theoretical model of role transitions in organizations, it was not clear whether existing constructs in the literature were relevant to his model and how those constructs aligned with his theoretical rationale. A qualitative approach enabled me to thoroughly examine how these processes were related to Ashforth's overarching theory in my target population – graduate students transitioning into professional work. A strength of qualitative research is that it provides flexibility and voice to the target population through open-ended and detailed responses. However, given that qualitative research is sometimes critiqued for its lack of generalizability and small sample sizes, I was able to further examine the theoretical relationships in a larger sample with established scales. The larger quantitative study enabled me to draw on previous relationships explored in the literature and, overall, leads to more generalizable findings.

One factor that is both a strength and limitation of the study is the wide breadth of graduate students sampled. Students included in the sample were pursuing both Master's degrees and PhDs and represented a wide variety of fields in both the "hard" and "social" sciences. The wide coverage of graduate students is a strength because the findings are more directly generalizable to professionals from many fields including business, engineering, computer science, and medicine. However, the large variation in graduate students is also a weakness in that graduates from different fields face widely disparate graduate experiences and career paths with different levels of expected income and status related to each. However, some of these concerns were reduced through incorporating program-relevant control variables when they were significantly related to study outcomes.

Another limitation of the current study is the high correlation between extrinsic and status goal content in both the short-term and long-term goal models. Despite the high correlation, CFAs did indicate that in both models, the four-factor model with extrinsic and status goals as separate variables did provide a better fit to the data. Another important consideration for the distinction between the two goal content variables is that the meaning and impact variables had differential relationships with the extrinsic and status goal outcomes. However, such highly-correlated outcomes present issues for establishing the discriminant validity of extrinsic and status goals.

A final limitation of the study is the reliance on self-report data. Same source bias can be problematic because respondents, in an effort to appear consistent, may answer survey questions in a way that leads to inflated relationships between study variables (i.e., CMV; Podsakoff, et al., 2003). I attempted to minimize this effect by dividing the surveys across three time periods separated by approximately three weeks. Although this strategy may be effective in limiting CMV to some extent, another way to mitigate spurious correlations is through other-ratings. It may have been possible, for instance, to get advisors' ratings of mentoring or other study variables.

Future Research

Results from this study provide ample avenues for future research. The current study presented the first test of identity motives and identification from Ashforth's (2001) model of role transitions in organizations. However, I found limited support for parts of the model; in particular, the control (i.e., networking, career mentoring) and meaning (i.e., meaning, impact) motives were not related to professional identification. Because a majority of the motives were unrelated to professional identification, only one identity motive was significantly related to a goal outcome through professional identification – providing limited support for a mediated model. Future research can address whether other variables more adequately capture what Ashforth describes as motives for control and meaning in his model. In addition, future research could assess the same model in regards to role transitions in organizations, rather than professions. Ashforth's model describes individuals entering jobs in specific organizations, so it could be that the variables in the present study are adequate reflections of identity motives, but they may be more effective in identifying organizational identification processes.

Another future area of study is a better understanding of both extrinsic and status goals. For example, does a graduate student set an extrinsic goal to have a high salary job for extrinsic reasons (e.g., "I want to live in a fancy house) or intrinsic reasons (e.g., "I want to be able to provide for my family")? This is especially relevant considering that graduate students who wanted to make an impact did not set high status goals. It would seem that a professional worker in a high status position, such as leading scientist at an Research1 institution or the CEO of an engineering company, would see part of their work as improving the well-being of others, but this does not appear to be the case. For professionals in particular future research should examine the content and motivations behind both extrinsic and status goals.

It would also be fruitful to examine how goals are related to career-relevant outcomes. For example, a primary tenet of goal setting theory is that higher quality goals lead to better performance. It would be telling to see whether graduate students with higher quality goals do indeed “succeed” more in their chosen career. This, of course, raises the question of how to measure whether or not one met one’s career goals. In the current study, because I collected written career goals, it would be simple to ask participants if they had reached their previously reported goals. However, in other contexts establishing (1) whether one had high quality goals and (2) whether those goals are related to goal achievement may be more difficult to assess.

Conclusion

A defining characteristic of all professions is that they engage in some type of advanced schooling. From the perspective that schooling is the first step of socialization into a profession, graduate school experiences can have distinct effects on professional identification and career-related goals. This study examined how identity-related process shaped the development of career goals for graduate students. The insights advance theory related to identity and goal setting and are useful for graduate students, their advisors, and professional workers as a whole.

REFERENCES

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*, 53-62.

Abbott, A. (1981). Status and status strain in the professions. *American Journal of Sociology*, *86,* 819-835.

Abbott, A. (2014). *The system of professions: An essay on the division of expert labor*. Chicago: University of Chicago Press.

Abrams, D. (1994). Social self-regulation. *Personality and Social Psychology Bulletin*, *20*, 473-483.

Abrams, D. E., & Hogg, M. A. (1990). *Social identity theory: Constructive and critical advances*. Ann-Arbor: Harvester Wheatsheaf.

Aguinis, H., & Vandenberg, R. J. (2014). An ounce of prevention is worth a pound of cure: Improving research quality before data collection. *Annual Review of Organizational Psychology and Organizational Behavior*, *1*(1), 569-595.

Allen, T. D., Eby, L. T., Poteet, M. L., Lentz, E., & Lima, L. (2004). Career Benefits Associated With Mentoring for Proteges: A Meta-Analysis. *Journal of Applied Psychology*, *89*, 127-136.

Allen, N. J., & Meyer, J. P. (1997). *Commitment in the workplace: Theory, research and application*. Thousand Oaks, CA: SAGE Publications.

Altman, D. G. (1999). *Practical statistics for medical research*. New York, NY: Chapman & Hall/CRC Press.

Altman, B. W., & Post, J. E. (1996). Beyond the "social contract": An analysis of the executive view at twenty-five large companies, In DT Hall & Associates, *The career is dead—Long live the career* (pp. 46-71). New York: Oxford University Press.

Amabile, T. M. (1993). Motivational synergy: Toward new conceptualizations of intrinsic and extrinsic motivation in the workplace. *Human resource management review*, *3*, 185-201.

Andersson, E. P. (1993). The perspective of student nurses and their perceptions of professional nursing during the nurse training programme. *Journal of Advanced Nursing*, *18*, 808-815.

Arthur, M. B., & Rousseau, D. M. (1996). *The boundaryless career*. Oxford University Press.

Aryee, S., & Debrah, Y. A. (1993). A cross-cultural application of a career planning model. *Journal of Organizational Behavior*, *14*, 119-127.

Ashford, S. J. (1986). Feedback-seeking in individual adaptation: A resource perspective. *Academy of Management journal*, *29*, 465-487.

Ashford, S. J., & Black, J. S. (1996). Proactivity during organizational entry: The role of desire for control. *Journal of Applied Psychology*, *81*, 199-214.

Ashforth, B. (2001). *Role transitions in organizational life: An identity-based perspective*. Mahwah, NJ: Routledge.

Ashforth, B. E., & Mael, F. (1989). Social identity theory and the organization. *Academy of Management Review*, *14*, 20-39.

Austin, A. E. (2002). Preparing the next generation of faculty: Graduate school as socialization to the academic career. *The Journal of Higher Education*, *73*, 94-122.

Austin, A. E., & McDaniels, M. (2006). Preparing the professoriate of the future: Graduate student socialization for faculty roles. *Higher Education (*pp. 397-456). Netherlands: Springer.

Azizzadeh, A., McCollum, C. H., Miller, C. C., Holliday, K. M., Shilstone, H. C., & Lucci, A. (2003). Factors influencing career choice among medical students interested in surgery. *Current Surgery*, *60*, 210-213.

Baker, V. L., & Pifer, M. J. (2011). The role of relationships in the transition from doctoral student to independent scholar. *Studies in Continuing Education*, *33*, 5-17.

Bamber, E. M., & Iyer, V. M. (2002). Big 5 auditors' professional and organizational identification: Consistency or conflict? *Auditing, 21*, 21-38.

Banaji, M. R., & Prentice, D. A. (1994). The self in social contexts. *Annual review of psychology*, *45*, 297-332.

Baruch, Y., & Holtom, B. C. (2008). Survey response rate levels and trends in organizational research. *Human Relations*, *61*, 1139-1160.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes*, *50*, 248-287.

Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (1996). Multifaceted impact of self-efficacy beliefs on academic functioning. *Child Development*, *67*, 1206-1222.

Bandura, A., & Locke, E. A. (2003). Negative self-efficacy and goal effects revisited. *Journal of Applied Psychology*, *88*, 87-99.

Bauer, T. N., & Erdogan, B. (2011). Organizational socialization: The effective onboarding of new employees. In S. Zedeck (Ed), *APA handbook of industrial and organizational psychology, Vol 3: Maintaining, expanding, and contracting the organization* (pp. 51-64). Washington, DC: American Psychological Association.

Bauer, T. N., & Green, S. G. (1998). Testing the combined effects of newcomer information seeking and manager behavior on socialization. *Journal of Applied Psychology*, *83*, 72.

Becker, T. E. (2005). Potential problems in the statistical control of variables in organizational research: A qualitative analysis with recommendations. *Organizational Research Methods*, *8*(3), 274-289.

Berg, J. M., Grant, A. M., & Johnson, V. (2010). When callings are calling: Crafting work and leisure in pursuit of unanswered occupational callings. *Organization Science*, *21*, 973-994.

Bernerth, J. B. & Aguinis, H. (*in press*). A critical review and best-practice recommendations for control variable usage. *Personnel Psychology*.

Betz, N. E. (1997). Increasing research involvement and interests among graduate students in counseling psychology. *The Counseling Psychologist, 25*, 88-93.

Betz, N. E., & Hackett, G. (1997). Applications of self-efficacy theory to the career assessment of women. *Journal of Career Assessment*, *5*, 383-402.

Bimrose, J., & Hearne, L. (2012). Resilience and career adaptability: Qualitative studies of adult career counseling. *Journal of Vocational Behavior*, *81*, 338-344.

Blau, P. M. (1964). *Exchange and power in social life*. Transaction Publishers.

Bollen, K. A. (2005). Structural equations with latent variables. John Wiley and Sons, New York

Bosco, F. A., Aguinis, H., Singh, K., Field, J. G., & Pierce, C. A. (2015). Correlational effect size benchmarks. *Journal of Applied Psychology*, *100*, 431-449.

Brunstein, J. C. (1993). Personal goals and subjective well-being: A longitudinal study. *Journal of Personality and Social Psychology*, *65*, 1061-1070.

Brunstein, J. C., Dangelmayer, G., & Schultheiss, O. C. (1996). Personal goals and social support in close relationships: Effects on relationship mood and marital satisfaction. *Journal of Personality and Social Psychology*, *71*, 1006.

Brunstein, J. C., Schultheiss, O. C., & Grässman, R. (1998). Personal goals and emotional well-being: the moderating role of motive dispositions. *Journal of Personality and Social Psychology*, *75*, 494.

Bunderson, J. S., & Thompson, J. A. (2009). The call of the wild: Zookeepers, callings, and the double-edged sword of deeply meaningful work. *Administrative Science Quarterly*, *54*, 32-57.

Burke, P. J. (1980). The self: Measurement requirements from an interactionist perspective. *Social psychology quarterly, 43*, 18-29.

Burke, P. J. (1991). Identity processes and social stress. *American Sociological Review, 56*, 836-849.

Burke, P. J., & Cast, A. D. (1997). Stability and change in the gender identities of newly married couples. *Social Psychology Quarterly*, 277-290.

Burke, P. J., & Reitzes, D. C. (1991). An identity theory approach to commitment. *Social Psychology Quarterly*, 239-251.

Burke, P. J., & Stets, J. E. (1999). Trust and commitment through self-verification. *Social Psychology Quarterly*, 347-366.

Burke, P. J., & Tully, J. C. (1977). The measurement of role identity. *Social Forces*, *55*, 881-897.

Corcoran, M., & Clark, S. M. (1984). Professional socialization and contemporary career attitudes of three faculty generations. *Research in Higher Education*, *20*, 131-153.

Button, S. B., Mathieu, J. E., & Zajac, D. M. (1996). Goal orientation in organizational research: A conceptual and empirical foundation. *Organizational Behavior and Human Decision Processes*, *67*, 26-48.

Cantor, N., & Zirkel, S. (1990). Personality, cognition, and purposive behavior. In L. A. Pervin (Ed), *handbook of personality: Theory and research*. (pp. 135-164). New York: Guilford Press.

Cardador, M. T., Dane, E., & Pratt, M. G. (2011). Linking calling orientations to organizational attachment via organizational instrumentality. *Journal of Vocational Behavior*, *79*, 367-378.

Chao, G. T., Walz, P. M., & Gardner, P. D. (1992). Formal and informal mentorships: A comparison on mentoring functions and contrast with nonmentored counterparts. *Personnel Psychology*, *45*, 619.

Clark, S. M., & Corcoran, M. (1986). Perspectives on the professional socialization of women faculty: A case of accumulative disadvantage?. *The Journal of Higher Education, 57*, 20-43.

Cohen, H. A. (1981). *The nurse's quest for a professional identity*. Ann Arbor, MI: Addison-Wesley.

Corcoran, M., & Clark, S. M. (1984). Professional socialization and contemporary career attitudes of three faculty generations. *Research in Higher Education*, *20*, 131-153.

Counsell, D. (1996). Graduate careers in the UK: an examination of undergraduates' perceptions. *Career Development International*, *1*, 44-51.

Crocker, J., & Luhtanen, R. (1990). Collective self-esteem and ingroup bias. *Journal of Personality and Social Psychology*, *58*, 60.

Day, R., & Allen, T. D. (2004). The relationship between career motivation and self-efficacy with protégé career success. *Journal of Vocational Behavior*, *64*, 72-91.

Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality*, *19*, 109-134.

Deci, E. L., & Ryan, R. M. (2000). The" what" and" why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*, 227-268.

DeShon, R. P., & Gillespie, J. Z. (2005). A motivated action theory account of goal orientation. *Journal of Applied Psychology*, *90*, 1096-1127.

Diegelman, N. M., & Subich, L. M. (2001). Academic and vocational interests as a function of outcome expectancies in social cognitive career theory. *Journal of Vocational Behavior*, *59*, 394-405.

Dik, B. J., & Duffy, R. D. (2009). Calling and vocation at work definitions and prospects for research and practice. *The Counseling Psychologist*, *37*, 424-450.

Dik, B. J., Sargent, A. M., & Steger, M. F. (2008). Career development strivings assessing goals and motivation in career decision-making and planning. *Journal of Career Development*, *35*, 23-41.

Dobrow, S. R., & Tosti-Kharas, J. (2011). Calling: The development of a scale measure. *Personnel Psychology*, *64*, 1001-1049.

Dombeck, M. T. (2003). Work narratives: Gender and race in professional personhood. *Research in Nursing & Health*, *26*, 351-365.

Dossett, D. L., Latham, G. P., & Mitchell, T. R. (1979). Effects of assigned versus participatively set goals, knowledge of results, and individual differences on employee behavior when goal difficulty is held constant. *Journal of Applied Psychology*, *64*, 291.

Dreher, G. F., & Ash, R. A. (1990). A comparative study of mentoring among men and women in managerial, professional, and technical positions. *Journal of Applied Psychology*, *75*, 539.

Duffy, R. D., & Dik, B. J. (2013). Research on calling: What have we learned and where are we going?. *Journal of Vocational Behavior*, *83*, 428-436.

Duffy, R. D., Dik, B. J., & Steger, M. F. (2011). Calling and work-related outcomes: Career commitment as a mediator. *Journal of Vocational Behavior*, *78*, 210-218.

Duffy, R. D., & Sedlacek, W. E. (2007). The presence of and search for a calling: Connections to career development. *Journal of Vocational Behavior*, *70*, 590-601.

Duncan, O. (1961). A socioeconomic index for all occupations. In A.J. Reiss Jr. (Ed.), *Occupations and Social Status* (pp. 109–138). New York: Free Press.

Dutton, J. E., Dukerich, J. M., & Harquail, C. V. (1994). Organizational images and member identification. *Administrative Science Quarterly, 39*, 239-263.

Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist*, *41*, 1040.

Eby, L. T., Butts, M., & Lockwood, A. (2003). Predictors of success in the era of the boundaryless career. *Journal of Organizational Behavior*, *24*(6), 689-708.

Ellemers, N., Kortekaas, P., & Ouwerkerk, J. W. (1999). Self-categorisation, commitment to the group and group self-esteem as related but distinct aspects of social identity. *European Journal of Social Psychology*, *29*, 371-389.

Ellis, A. M., Bauer, T. N., & Erdogan, B. (2014). New-Employee organizational socialization. *Handbook of Socialization: Theory and Research*, 301-322.

Erez, M. (1986). The congruence of goal setting strategies with socio-cultural values and its effect on performance. *Journal of Management*, *12*, 585-592.

Erez, M., & Kanfer, F. H. (1983). The role of goal acceptance in goal setting and task performance. *Academy of Management Review*, *8*, 454-463.

Farrell, A. M. (2010). Insufficient discriminant validity: A comment on Bove, Pervan, Beatty, and Shiu (2009). *Journal of Business Research*, *63*(3), 324-327.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*, 1149-1160.

Featherman and Hauser, (1976). D.L. Prestige or socioeconomic scales in the study of occupational achievement? *Sociological Methods and Research, 4,* 402–422.

Feldman, D. C. (1976). A contingency theory of socialization. *Administrative Science Quarterly, 21*, 433-452.

Fisher, C. D. (1986). Organizational socialisation: an integrative review. In K.M. Rowland & G.R. Ferris (Eds.). *Research in Personnel and Human Resources Management* (Vol 4. pp. 101-145). Greenwich, CT: JAI Press.

Farrell, A. M. (2010). Insufficient discriminant validity: A comment on Bove, Pervan, Beatty, and Shiu (2009). *Journal of Business Research*, *63*(3), 324-327.

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of marketing research*, 382-388.

Forret, M. L., & Dougherty, T. W. (2004). Networking behaviors and career outcomes: differences for men and women?. *Journal of Organizational Behavior*, *25*, 419-437.

Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior*, *26*, 331-362.

Gould, S. (1979). Characteristics of career planners in upwardly mobile occupations. *Academy of Management Journal*, *22*, 539-550.

Gouldner, A. W. (1958). Cosmopolitans and locals: toward an analysis of latent social roles. II. *Administrative Science Quarterly*, 444-480.

Green, S. G., & Bauer, T. N. (1995). Supervisory mentoring by advisers: Relationships with doctoral student potential, productivity, and commitment. *Personnel Psychology*, *48*, 537-562.

Greenhaus. J. H. (1987). *Career Management*. Chicago: Dryden Press

Greenhaus, J. H., Callanan, G. A., & Godshalk, V. M. (2010). *Career Management (4th ed.)*. Chicago: Dryden Press

Hackett, G., Betz, N. E., Casas, J. M., & Rocha-Singh, I. A. (1992). Gender, ethnicity, and social cognitive factors predicting the academic achievement of students in engineering. *Journal of counseling Psychology*, *39*(4), 527-538.

Hackman, J. R., & Oldham, G. R. (1980). *Work redesign* (Vol. 7). Reading, MA: Addison-Wesley.

Hall, D. T. (1987). Careers and socialization. *Journal of Management*, *13*, 301-321.

Hall, D. T., & Chandler, D. E. (2005). Psychological success: When the career is a calling. *Journal of Organizational Behavior*, *26*, 155-176.

Hall, D. T., Schneider, B., & Nygren, H. T. (1970). Personal factors in organizational identification. *Administrative Science Quarterly, 15*, 176-190.

Haslam, S. A., & Ellemers, N. (2005). Social identity in industrial and organizational psychology: Concepts, controversies and contributions. *International review of industrial and organizational psychology*, *20*, 39-118.

Hekman, D. R., Bigley, G. A., Steensma, H. K., & Hereford, J. F. (2009a). Combined effects of organizational and professional identification on the reciprocity dynamic for professional employees. *Academy of Management Journal*, *52*, 506-526.

Hekman, D. R., Steensma, H. K., Bigley, G. A., Hereford, J. F. (2009b). Effects of organizational and professional identification on the relationship between administrators' social influence and professional employees' adoption of new work behavior. *Journal of Applied Psychology, 94*, 1325-1335.

Hickson, D. J., & Thomas, M. W. (1969). Professionalization in Britain: A preliminary measurement. *Sociology*, *3*, 37-53.

Higgins, M. C. (2000). The more, the merrier? Multiple developmental relationships and work satisfaction. *Journal of Management Development*, *19*, 277-296.

Higgins, M. C., & Kram, K. E. (2001). Reconceptualizing mentoring at work: A developmental network perspective. *Academy of Management Review*, *26*, 264-288.

Hirschi, A. (2012). Callings and work engagement: moderated mediation model of work meaningfulness, occupational identity, and occupational self-efficacy. *Journal of counseling psychology*, *59*, 479.

Hogg, M. A. (1987). Social identity and group cohesiveness. In *Rediscovering the social group: A self-categorization theory*, 89-116. Oxford, England: Basil Blackwell.

Hogg, M. A., & Terry, D. I. (2000). Social identity and self-categorization processes in organizational contexts. *Academy of Management Review*, *25*, 121-140.

Hogg, M. A., Terry, D. J., & White, K. M. (1995). A tale of two theories: A critical comparison of identity theory with social identity theory. *Social Psychology Quarterly, 58*, 255-269.

Hollenbeck, J. R., Klein, H. J., O'Leary, A. M., & Wright, P. M. (1989). Investigation of the construct validity of a self-report measure of goal commitment. *Journal of Applied Psychology*, *74*, 951.

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.

Inkeles, A., & Rossi, P. H. (1956). National comparisons of occupational prestige. *American Journal of Sociology*, 61, 329-339.

Johnson, M. D., Morgeson, F. P., Ilgen, D. R., Meyer, C. J., & Lloyd, J. W. (2006). Multiple professional identities: examining differences in identification across work-related targets. *Journal of Applied Psychology*, *91*, 498.

Jones, G. R. (1986). Socialization tactics, self-efficacy, and newcomers' adjustments to organizations. *Academy of Management journal*, *29*(2), 262-279.

Judge, T. A., & Bono, J. E. (2001). Relationship of core self-evaluations traits—self-esteem, generalized self-efficacy, locus of control, and emotional stability—with job satisfaction and job performance: A meta-analysis. *Journal of Applied Psychology*, *86*(1), 80.

Kahn, J. H., & Scott, N. A. (1997). Predictors of research productivity and science-related career goals among counseling psychology doctoral students. *The Counseling Psychologist*, *25*, 38-67.

Kasser, T., & Ryan, R. M. (1993). A dark side of the American dream: Correlates of financial success as a central life aspiration. *Journal of Personality and Social Psychology, 65*(2), 410-422.

Kasser, T., & Ryan, R. M. (1996). Further examining the American dream: Differential correlates of intrinsic and extrinsic coals. *Personality and Social Psychology Bulletin*, *22*, 280-287.

Kenward, M. G., & Molenberghs, G. (1998). Likelihood based frequentist inference when data are missing at random. *Statistical Science*, 236-247.

Kim, S., Mone, M. A., & Kim, S. (2008). Relationships among self-efficacy, pay-for-performance perceptions, and pay satisfaction: A Korean examination. *Human Performance*, *21*, 158-179.

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*, 485.

Kraimer, M. L., & Wayne, S. J. (2004). An examination of perceived organizational support as a multidimensional construct in the context of an expatriate assignment. *Journal of Management*, *30*, 209-237.

Kram, K. E. (1985). Improving the mentoring process. *Training & Development Journal, 39*, 40-43.

Kramer, M. (1974). *Reality shock: Why nurses are leaving nursing*. St. Louis: CV Mosby.

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, *33*, 159-174.

Lankau, M. J., & Scandura, T. A. (2002). An investigation of personal learning in mentoring relationships: Content, antecedents, and consequences. *Academy of Management Journal*, *45*, 779-790.

Latham, G. P., & Baldes, J. J. (1975). The" practical significance" of Locke's theory of goal setting. *Journal of Applied Psychology*, *60*, 122.

Latham, G. P., & Saari, L. M. (1979a). Application of social-learning theory to training supervisors through behavioral modeling. *Journal of Applied Psychology*, *64*, 239.

Latham, G. P., & Saari, L. M. (1979b). Importance of supportive relationships in goal setting. *Journal of Applied Psychology*, *64*, 151.

Lee, P. C. B. (2002). Career goals and career management strategy among information technology professionals. *Career Development International*, *7*, 6-13.

Lee, K., Carswell, J. J., & Allen, N. J. (2000). A meta-analytic review of occupational commitment: relations with person-and work-related variables. *Journal of Applied Psychology*, *85*, 799.

Lee, T. W., & Mowday, R. T. (1987). Voluntarily leaving an organization: An empirical investigation of Steers and Mowday's model of turnover. *Academy of Management Journal*, *30*, 721-743.

Lent, R. W., & Brown, S. D. (1996). Social cognitive approach to career development: An overview. *Career Development Quarterly*, *44*, 310-321.

Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance [Monograph]. *Journal of Vocational Behavior, 45*, 79–122.

Lent, R. W., Brown, S. D., & Hackett, G. (2002). Social cognitive career theory. *Career Choice and Development*, *4*, 255-311.

Lent, R. W., Brown, S. D., & Larkin, K. C. (1984). Relation of self-efficacy expectations to academic achievement and persistence. *Journal of Counseling Psychology, 31*, 356–362.

Lent, R. W., Brown, S. D., & Larkin, K. C. (1986). Self-efficacy in the prediction of academic performance and perceived career options. *Journal of Counseling Psychology, 33*, 265–269.

Lent, R. W., Brown, S. D., Nota, L., & Soresi, S. (2003). Testing social cognitive interest and choice hypotheses across Holland types in Italian high school students. *Journal of Vocational Behavior, 62*, 101–118.

Lent, R. W., Brown, S. D., Schmidt, J., Brenner, B., Lyons, H., & Treistman, D. (2003). Relation of contextual supports and barriers to choice behavior in engineering majors: Test of alternative social cognitive models. *Journal of Counseling Psychology*, *50*, 458.

Lent, R. W., Brown, S. D., Sheu, H., Schmidt, J., Brenner, B. R., Gloster, C. S., et al. (2005). Social cognitive predictors of academic interests and goals in engineering: Utility for women and students at historically Black universities. *Journal of Counseling Psychology,52*, 84–92.

Lent, R. W., Larkin, K. C., & Brown, S. D. (1989). Relation of self-efficacy to inventoried vocational interests. *Journal of vocational behavior*, *34*, 279-288.

Lent, R. W., Lopez, F. G., & Bieschke, K. J. (1991). Mathematics self-efficacy: Sources and relation to science-based career choice. *Journal of Counseling Psychology, 38*, 424–430.

Lent, R. W., Lopez, F. G., & Bieschke, K. J. (1993). Predicting mathematics-related choice and success behaviors: Test of an expanded social cognitive model. *Journal of Vocational Behavior, 42*, 223–236

Lent, R. W., Lopez, A. M., Lopez, F. G., & Sheu, H. B. (2008). Social cognitive career theory and the prediction of interests and choice goals in the computing disciplines. *Journal of Vocational Behavior*, *73*, 52-62.

Levy, I., Kaplan, A., & Patrick, H. (2004). Early adolescents' achievement goals, social status, and attitudes towards cooperation with peers. *Social Psychology of Education*, *7*, 127-159.

Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural equation modeling*, *9*(2), 151-173.

Locke, E. A. (1976). The nature and causes of job satisfaction. *Handbook of Industrial and Organizational Psychology*, *1*, 1297-1343. Rand McNally.

Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting & task performance*. Ann Arbor, MI: Prentice-Hall, Inc.

Locke, E. A., Shaw, K. N., Saari, L. M., & Latham, G. P. (1981). Goal setting and task performance: 1969–1980. *Psychological Bulletin, 90,* 125-152.

Loi, R., Hang-Yue, N., & Foley, S. (2004). The effect of professional identification on job attitudes: A study of lawyers in Hong Kong. *Organizational Analysis*, *12*, 109-128.

London, M. (1983). Toward a theory of career motivation. *Academy of Management Review*, *8*, 620-630.

London, M., & Stumpf, S. A. (1982). *Managing careers*. Addison Wesley Publishing Company.

Louis, M. R. (1980). Surprise and sense making: What newcomers experience in entering unfamiliar organizational settings. *Administrative Science Quarterly*, 226-251.

Lui, S. S., Ngo, H. Y., & Tsang, A. W. N. (2003). Socialized to be a Professional: A Study of the Professionalism of Accountants in Hong Kong. *International Journal of Human Resource Management*, *14*, 1192-1205.

MacIntosh, J. (2003). Reworking professional nursing identity. *Western Journal of Nursing Research*, *25*, 725-741.

Maier, G. W., & Brunstein, J. C. (2001). The role of personal work goals in newcomers' job satisfaction and organizational commitment: A longitudinal analysis. *Journal of Applied Psychology*, *86*, 1034.

Major, D. A., Kozlowski, S. W., Chao, G. T., & Gardner, P. D. (1995). A longitudinal investigation of newcomer expectations, early socialization outcomes, and the moderating effects of role development factors. *Journal of Applied Psychology*, *80*, 418.

March, J. G., & Simon, H. A. (1958). *Organizations*. New York: Wiley.

McCall, G. J., & Simmons, J. L. (1978*). Identities and interactions: An examination of associations in everyday life* (revised ed.). New York: Free Press.

Mela, C. F., & Kopalle, P. K. (2002). The impact of collinearity on regression analysis: the asymmetric effect of negative and positive correlations. *Applied Economics*, *34*(6), 667-677.

Mento, A. J., Steel, R. P., & Karren, R. J. (1987). A meta-analytic study of the effects of goal setting on task performance: 1966–1984. *Organizational Behavior and Human Decision Processes*, *39*, 52-83.

Merton, R. K. (1957). Some preliminaries to a sociology of medical education. *The Student Physician*, 3-79.

Miller, V. D., & Jablin, F. M. (1991). Information seeking during organizational entry: Influences, tactics, and a model of the process. *Academy of Management Review*, *16*, 92-120.

Minkler, M., & Biller, R. P. (1979). Role shock: A tool for conceptualizing stresses accompanying disruptive role transitions. *Human Relations*, *32*, 125-140.

Mirvis, P. H., & Hall, D. T. (1996). Psychological success and the boundaryless career. *Journal of Organizational Behavior, 15*3, 65-380.

Muthén, L. K.., & Muthén, B. O. (2007). Mplus User's Guide (Sixth Edition). Los Angeles, CA: Muthén & Muthén

Nakao, K., & Treas, J. (1994). Updating occupational prestige and socioeconomic scores: How the new measures measure up. *Sociological methodology*, *24*(1), 1-72.

Navarro, R. L., Flores, L. Y., & Worthington, R. L. (2007). Mexican American middle school students' goal intentions in mathematics and science: A test of social cognitive career theory. *Journal of Counseling Psychology*, *54*, 320.

Neubert, M. J. (1998). The value of feedback and goal setting over goal setting alone and potential moderators of this effect: A meta-analysis. *Human Performance*, *11*, 321-335.

Ng, T. W. H., Eby, L. T., Sorensen, K. L., & Feldman, D. C. (2005). Predictors of objective and subjective career success. A meta-analysis. *Personnel Psychology, 58,* 367–408.

Ng, T. W., & Feldman, D. C. (2007). Organizational embeddedness and occupational embeddedness across career stages. *Journal of Vocational Behavior*, *70*, 336-351.

Ng, T. W., & Feldman, D. C. (2014). A conservation of resources perspective on career hurdles and salary attainment. *Journal of Vocational Behavior*, *85*, 156-168.

Noe, R. A., Noe, A. W., & Bachhuber, J. A. (1990). An investigation of the correlates of career motivation. *Journal of Vocational Behavior*, *37*, 340-356.

Noe, R. A. (1996). Is career management related to employee development and performance?. *Journal of Organizational Behavior*, *17*, 119-133.

Ostroff, C., & Kozlowski, S. W. (1992). Organizational socialization as a learning process: The role of information acquisition. *Personnel Psychology*, *45*, 849.

Paglis, L. L., Green, S. G., & Bauer, T. N. (2006). Does adviser mentoring add value? A longitudinal study of mentoring and doctoral student outcomes. *Research in Higher Education*, *47*, 451-476.

Payne, S. C., Culbertson, S. S., Boswell, W. R., & Barger, E. J. (2008). Newcomer psychological contracts and employee socialization activities: Does perceived balance in obligations matter?. *Journal of Vocational Behavior*, *73*, 465-472.

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*, 879

Porter, L.W., Lawlor, E. & Hackman, R. (1975). *Behaviour in Organizations*. London: McGraw-Hill.

Porter, L. W., & Steers, R. M. (1973). Organizational, work, and personal factors in employee turnover and absenteeism. *Psychological Bulletin*, *80*, 151.

Pratt, M. G. (1998). Central Questions in Organizational Identification. In D. A. Whetten & P. C. Godfrey (Eds.) *Identity in organizations*, (pp. 171-207). Thousand Oaks, CA: SAGE Publications.

Pratt, M. G., & Foreman, P. O. (2000). Classifying managerial responses to multiple organizational identities. *Academy of Management Review*, *25*, 18-42.

Pratt, M. G., Rockmann, K. W., & Kaufmann, J. B. (2006). Constructing professional identity: The role of work and identity learning cycles in the customization of identity among medical residents. *Academy of Management Journal*, *49*, 235-262.

Price, S. L. (2009). Becoming a nurse: a meta-study of early professional socialization and career choice in nursing. *Journal of Advanced Nursing*, *65*, 11-19.

Reicher, S. D. (1987). Crowd behaviour as social action. *Rediscovering the social group: A self-categorization theory*, 171-202.

Rigotti, T., Schyns, B., & Mohr, G. (2008). A short version of the occupational self-efficacy scale: Structural and construct validity across five countries. *Journal of Career Assessment*, *16*, 238-255.

Roberson, L. (1989). Assessing personal work goals in the organizational setting: Development and evaluation of the Work Concerns Inventory. *Organizational Behavior and Human Decision Processes*, *44*, 345-367.

Roberson, L., Houston, J. M., & Diddams, M. (1989). Identifying valued work outcomes through a content analysis of personal goals. *Journal of Vocational Behavior*, *35*, 30-45.

Russo, T. C. (1998). Organizational and Professional Identification A Case of Newspaper Journalists. *Management Communication Quarterly*, *12*, 72-111.

Sauder, M., Lynn, F., & Podolny, J. M. (2012). Status: Insights from organizational sociology. *Annual Review of Sociology*, *38*, 267-283.

Schaefers, K. G., Epperson, D. L., & Nauta, M. M. (1997). Women's career development: Can theoretically derived variables predict persistence in engineering majors?. *Journal of Counseling Psychology*, *44*, 173.

Schein, E. H. (1988). Organizational socialization and the profession of management. *MIT Sloan Management Review*, *30*, 53.

Schleef, D. (2000). "That's a good question!" Exploring motivations for law and business school choice. *Sociology of Education, 73*, 155-174.

Segal, G., Borgia, D., & Schoenfeld, J. (2005). The motivation to become an entrepreneur. *International journal of Entrepreneurial Behavior & Research*, *11*, 42-57.

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*, 169.

Seo, M. G., Barrett, L. F., & Bartunek, J. M. (2004). The role of affective experience in work motivation. *Academy of Management Review*, *29*, 423-439.

Settles, I. H. (2004). When multiple identities interfere: The role of identity centrality. *Personality and Social Psychology Bulletin*, *30*(4), 487-500.

Simon, H. A. (1957). *Models of Man; Social and Rational*. New York: Wiley.

Sosik, J. J., & Godshalk, V. M. (2000). Leadership styles, mentoring functions received, and job-related stress: a conceptual model and preliminary study. *Journal of Organizational Behavior*, *21*, 365-390.

Smith, K. G., Locke, E. A., & Barry, D. (1990). Goal setting, planning, and organizational performance: An experimental simulation. *Organizational Behavior and Human Decision Processes*, *46*, 118-134.

Stajkovic, A. D., & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. *Psychological bulletin*, *124*(2), 240.

Steers, R. M. (1976). Factors affecting job attitudes in a goal setting environment. *Academy of Management Journal, 19*, 6-16.

Stets, J. E., & Burke, P. J. (2000). Identity theory and social identity theory. *Social Psychology Quarterly, 63*, 224-237.

Stevens, G., & Featherman, D. L. (1981). A revised socioeconomic index of occupational status. *Social Science Research*, *10*, 364-395.

Stryker, S. (1968). Identity salience and role performance: The relevance of symbolic interaction theory for family research. *Journal of Marriage and the Family, 30*, 558-564.

Stryker, S. (1987). Identity theory: developments and extensions. In K. Yardley & T. Honess (Eds). *Self and identity: Psychosocial perspectives* (pp. 89-103). Oxford, England, Wiley & Sons.

Stryker, S., & Serpe, R. T. (1982). Commitment, identity salience, and role behavior: Theory and research example. In *Personality, roles, and social behavior* (pp. 199-218). New York: Springer.

Stryker, S., & Serpe, R. T. (1994). Identity salience and psychological centrality: Equivalent, overlapping, or complementary concepts?. *Social psychology quarterly, 57*, 16-35.

Stryker, S., & Statham, A. (1985). Symbolic interaction and role theory. In G. Lindzey & E. Aronson (Eds.), *Handbook of social psychology*. Vol. I, 3rd ed. (pp. 311-378). New York: Random House.

Stumpf, S. A., Colarelli, S. M., & Hartman, K. (1983). Development of the career exploration survey (CES). *Journal of Vocational Behavior*, *22*, 191-226.

Sturges, J. (1999). What it means to succeed: Personal conceptions of career success held by male and female managers at different ages. *British Journal of Management*, *10*, 239-252.

Sturges, J., Guest, D., Conway, N., Davey, K. M. (2002). A longitudinal study of the relationship between career management and organizational commitment amongst graduates in the first ten years at work. *Journal of Organizational Behavior, 23*, 731-748.

Sullivan, S. E. (1999). The changing nature of careers: A review and research agenda. *Journal of Management*, *25*, 457-484.

Super, D. E. (1970). *Work values inventory: Manual*. Riverside Publishing Company.

Tajfel, H. E. (1978). *Differentiation between social groups: Studies in the social psychology of intergroup relations*. London: Academic Press.

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), The social psychology of intergroup relations (pp. 33–47). Monterey, CA: Brooks/Cole

Tajfel, H., & Turner, J. C. (1985). An integrative theory of intergroup conflict. *The Social Psychology of Intergroup Relations*, *33*, 74.

Tannenbaum, S. I., Mathieu, J. E., Salas, E., & Cannon-Bowers, J. A. (1991). Meeting trainees' expectations: The influence of training fulfillment on the development of commitment, self-efficacy, and motivation. *Journal of applied psychology*, *76*(6), 759-799.

Tenenbaum, H. R., Crosby, F. J., & Gliner, M. D. (2001). Mentoring relationships in graduate school. *Journal of Vocational Behavior*, *59*, 326-341.

Terry, D. J., & Hogg, M. A. (1996). Group norms and the attitude-behavior relationship: A role for group identification. *Personality and Social Psychology Bulletin*, *22*, 776-793.

Thoits, P. A. (1986). Multiple identities: Examining gender and marital status differences in distress. *American Sociological Review, 51*, 259-272.

Toit, D. (1995). A sociological analysis of the extent and influence of professional socialization on the development of a nursing identity among nursing students at two universities in Brisbane, Australia. *Journal of Advanced Nursing*, *21*, 164-171.

Tolman, E. C. (1943). Identification and the postwar world. *The Journal of Abnormal and Social Psychology*, *38*, 141-148.

Treiman, D. J. (2013). *Occupational prestige in comparative perspective*. New York: Academic Press.

Turner, J. C. (1982). Towards a cognitive redefinition of the social group. In H. Tajfel (Ed.) *Social Identity and Intergroup Relations* (pp. 15-40). Cambridge University Press.

Turner, J. C. (1985). Social categorization and the self-concept: A social cognitive theory of group behavior. *Advances in group processes: Theory and research*, *2*, 77-122.

Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the social group: A self-categorization theory*. Cambridge, MA: Basil Blackwell.

Turner, J. C., Oakes, P. J., Haslam, S. A., & McGarty, C. (1994). Self and collective: Cognition and social context. *Personality and Social Psychology Bulletin*, *20*, 454-454.

Van Maanen, J. (1975). Police socialization: A longitudinal examination of job attitudes in an urban police department. *Administrative Science Quarterly*, 207-228.

Van Maanen, J., & Schein, E. H. (1979). Toward a theory of organizational socialization. In B. Strew (Ed.) *Research in Organizational Behavior*. New York: JIP Press.

Vough, H. (2012). Not all identifications are created equal: Exploring employee accounts for workgroup, organizational, and professional identification. *Organization Science*, *23*, 778-800.

Wallace, J. E. (1995). Organizational and professional commitment in professional and nonprofessional organizations. *Administrative Science Quarterly, 40*, 228-255.

Wanous, J. P., Poland, T. D., Premack, S. L., & Davis, K. S. (1992). The effects of met expectations on newcomer attitudes and behaviors: a review and meta-analysis. *Journal of Applied Psychology*, *77*, 288.

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*, 577-595.

Weissmann, J. (Feb. 23, 2013). How many PhD's actually get to become college professors? *The Atlantic*.

Wheeler, S. (1966). The structure of formally organized socialization settings. *Socialization after childhood* (pp. 51-116). New York: Wiley.

Williams, L. J., & O'Boyle, E. H. (2008). Measurement models for linking latent variables and indicators: A review of human resource management research using parcels. *Human Resource Management Review*, *18*(4), 233-242.

Wrzesniewski, A., & Tosti, J. (2006). Career as a calling. In J. H. Greenhaus & G. A. Callanan (Eds) *Encyclopedia of Career Development* (pp. 71-75). Thousand Oaks, CA: SAGE.

Zytowski, D. G. (1994). A Super contribution to vocational theory: Work values. *The Career Development Quarterly*, *43*, 25-31.

APPENDIX: SURVEY ITEMS

TIME 1 SURVEY

This survey is the first of two surveys. To ensure receipt of the second survey, please provide your email address: __________

Role Entry Met Expectations (collected as a control variable)

Lee, T. W., & Mowday, R. T. (1987). Voluntarily leaving an organization: An empirical investigation of Steers and Mowday's model of turnover. *Academy of Management journal*, *30*(4), 721-743.

Anchors: 1 = a lot less than expected, 2 = less than expected 3 = somewhat less than expected,4 = close to expected; 5 = as expected,

1. To what extent have your expectations about the profession been met?

Arnold, H. J., & Feldman, D. C. (1982). A multivariate analysis of the determinants of job turnover. *Journal of Applied Psychology*, *67*(3), 350.

Anchors: 1 = strongly disagree to 5 = strongly agree.

2. All in all, have your expectations with regard to the profession been met?

Need for Identification

Kreiner, G. E., & Ashforth, B. E. (2004). Evidence toward an expanded model of organizational identification. *Journal of Organizational Behavior*, *25*(1), 1-27.

1. Without a profession to work for, I would feel incomplete
2. I'd like to work in a profession where I would think of *its* successes and failures as being *my* successes and failures
3. An important part of who I am would be missing if I didn't belong to a profession
4. Generally, I do not feel a need to identify with a profession that I am working in (R)
5. Generally, the more my goals, values, and beliefs overlap with those of my profession, the happier I am
6. I would rather say 'we' than 'they when talking about the profession that I work in.
7. No matter where I work, I'd like to think of myself as representing what the profession stands for.

Occupational Self-Efficacy

Rigotti, T., Schyns, B., & Mohr, G. (2008). A short version of the occupational self-efficacy scale: Structural and construct validity across five countries. *Journal of Career Assessment*, *16*(2), 238-255.

1. I can remain calm when facing difficulties in my graduate program work because I can rely on my abilities
2. When I am confronted with a problem in my graduate program work, I can usually find several solutions.
3. Whatever comes my way in my graduate program, I can usually handle it.
4. My past academic experiences have prepared me well for my occupational future.
5. I meet the goals that I set for myself in my graduate school work
6. I feel prepared for most of the demands of this occupation.

Professional Networking

Sturges, J., Guest, D., Conway, N., Davey, K. M. (2002). A longitudinal study of the relationship between career management and organizational commitment amongst graduates in the first ten years at work. *Journal of Organizational Behavior, 23*, 731-748.

1. I have gotten myself introduced to people within the profession who can influence my career.
2. I have talked to senior scholars at professional gatherings
3. I have built contacts with people in areas where I would like to work
4. I have networked with others so that I could be involved in high profile projects
5. I have asked for career advice from people even when it has not been offered
6. I have asked for informal feedback on my work from senior scholars and/or peers.
7. I have built work relationships with my peers.

Career Mentoring

Dreher, G. F., & Ash, R. A. (1990). A comparative study of mentoring among men and women in managerial, professional, and technical positions. *Journal of applied psychology*, *75*(5), 539.

Shortened scale used in:
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.

Think about the extent to which your faculty advisor(s) has/have taken an interest in helping you develop your career. Indicate the extent to which they have engaged in the following activities.

1. Given or recommended you for challenging assignments that present opportunities' to learn new skills?
2. Given or recommended you for assignments that required personal contact with colleagues in your graduate program?
3. Given or recommended you for assignments that increased your contact with others in the profession?
4. Given or recommended you for assignments that helped you meet new colleagues?

Meaning

Spreitzer, G. M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of management Journal*, *38*(5), 1442-1465.

1. The work that I do in this occupation is very important to me.
2. The job activities associated with this occupation are personally meaningful to me
3. The work of this occupation is meaningful to me

Impact

Grant AM. (2008). The significance of task significance: Job performance effects, relational mechanisms, and boundary conditions. Journal of Applied Psychology, 93, 108–124.

1. I am very conscious of the positive impact that my work in this occupation has on others
2. I am very aware of the ways in which my work in this occupation is benefiting others
3. I feel that I can have a positive impact on others through this occupation

Psychosocial Mentoring

Dreher, G. F., & Ash, R. A. (1990). A comparative study of mentoring among men and women in managerial, professional, and technical positions. *Journal of applied psychology*, *75*(5), 539.

Shortened scale used in:
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.

Think about the extent to which your faculty advisor(s) has/have taken an interest in helping you develop your career. Indicate the extent to which they have engaged in the following activities.

1. Conveyed empathy for the concerns and feelings you have discussed with him/her?
2. Shared personal experiences as an alternative perspective to your problems?
3. Discussed your questions or concerns regarding feelings of competence, commitment to advancement, relationships with peers and supervisors or work/family conflicts?
4. Encouraged you to talk openly about anxiety, fears, or concerns you have that may detract from your work?

Peer Support (adapted Psychosocial Mentoring Scale)

Think about the extent to which your peers has/have taken an interest in helping you in the graduate program and develop your career. Indicate the extent to which they have engaged in the following activities.

1. Conveyed empathy for the concerns and feelings you have discussed with them?
2. Shared personal experiences as an alternative perspective to your problems?
3. Discussed your questions or concerns regarding feelings of competence, commitment to advancement, relationships with peers and supervisors or work/family conflicts?
4. Encouraged you to talk openly about anxiety, fears, or concerns you have that may detract from your work?

Perceived Organizational Support (collected as a control variable)
Kraimer, M. L., & Wayne, S. J. (2004). An examination of perceived organizational support as a multidimensional construct in the context of an expatriate assignment. *Journal of Management*, *30*(2), 209-237.

Financial
1. My college/department has taken care of me financially
2. The financial incentives and allowances provided to me by my college/department are good
3. I have received generous financial support from my college/department
4. I cannot complain about the financial benefits associated with my graduate program

Career
5. My college/department takes an interest in my career
6. My college/department considers my goals when making decisions about my career
7. My college/department keeps me informed about career opportunities available within the profession
8. I feel that my college/department cares about my career development

Adjustment
9. My college/department has shown an interest in my well-being
10. My college/department has provided me with enough assistance to adjust to the graduate program
11. My college/department has provided me with many opportunities to ease the transition to graduate school
12. Help is available within my college/department whenever I have questions or concerns about my graduate program.

Demographics

What is your gender?
❍ Male
❍ Female

What is your age?

Are you of Hispanic origin?
❍ Yes
❍ No

Which category most closely describes your race?
- ❍ White/Caucasian
- ❍ African
- ❍ African American
- ❍ Asian
- ❍ Asian American
- ❍ Indian
- ❍ Other, please specify ____________________

Are you an international student?
- ❍ Yes
- ❍ No

Which best describes your marital status?
- ❍ Married or living with a committed partner
- ❍ Single

How many children do you have?
- ❍ None
- ❍ One
- ❍ Two
- ❍ Three
- ❍ Four or more

Demographics – Graduate Program

We would like to get a little information about the type of program in which you are enrolled.

At which university are you currently enrolled?
- ❍ University of Iowa
- ❍ Other, please specify ____________________

What type of degree are you pursuing?
- ❍ MA / MS
- ❍ MFA
- ❍ MBA
- ❍ EdS
- ❍ JD
- ❍ PhD
- ❍ MD
- ❍ Other, please specify ____________________

In what field is your program?

- ❍ Arts / Humanities
- ❍ Business
- ❍ Communication
- ❍ Education
- ❍ Engineering and Computer Science
- ❍ Government
- ❍ Health and Medicine
- ❍ Law and Public Policy
- ❍ Biological and Physical Sciences
- ❍ Other, please specify ____________________

What is the typical program length?

- ❍ 1 year
- ❍ 2 years
- ❍ 3 years
- ❍ 4 years
- ❍ 5 years
- ❍ 6 years
- ❍ 7 years
- ❍ 8 years
- ❍ Other, please specify ____________________

Do you have funding support from any of the following roles? Please check all that apply.

- ❑ Teaching Assistant
- ❑ Research Assistant
- ❑ Grants
- ❑ Other, please specify ____________________

How many months/years have you been a graduate student in your current program?

Years

Months

Are you on track to finish on time?
- ❍ Yes
- ❍ No

  If no, please explain why not.

Did you have any professional work experience before you began graduate school?
- ❍ Yes
- ❍ No

  If so, how many years did you work?

1. Overall, how satisfied were you with your professional work experience?

   (1 = very dissatisfied; 2 = dissatisfied; 3 = neutral; 4 = satisfied; 5 = very satisfied)

TIME 2 SURVEY

Professional Identification

Heckman, D. R., Steensma, H. K., Bigley, G. A., Hereford, J. F. (2009). Effects of organizational and professional identification on the relationship between administrators' social influence and professional employees' adoption of new work behavior. *Journal of Applied Psychology, 94*, 1325-1335.

1. In general, when someone praises my profession, it feels like a personal compliment.
2. In general, when someone criticizes my profession, it feels like a personal insult.
3. When I talk about others in my profession, I usually say "we" rather than "they."
4. My field's successes are my successes.
5. If a story in the media criticized my profession, I would feel embarrassed.

Organizational Identification (collected as a control variable)

Heckman, D. R., Steensma, H. K., Bigley, G. A., Hereford, J. F. (2009). Effects of organizational and professional identification on the relationship between administrators' social influence and professional employees' adoption of new work behavior. *Journal of Applied Psychology, 94*, 1325-1335.

1. When someone praises my university, it feels like a personal compliment.
2. When someone criticizes my university, it feels like a personal insult.
3. When I talk about my university, I usually say "we" rather than "they."
4. My university's successes are my successes.
5. If a story in the media criticized my university, I would feel embarrassed.

Career Goals—Short Term (Extrinsic/Status/Intrinsic)

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.

To what extent do you agree with each of the following statements regarding your **SHORT TERM** career goals?

Extrinsic

1. It is important to me to achieve financial success in my career
2. One's success in this career can be judged by the amount of money one makes.
3. A high income is one of my career goals.

Status

4. It is important for me to be seen by others as a success in my career
5. I want to be seen as an influential person in my field.
6. I want to achieve a high social status in my career
7. Rank and status are important to me.
8. It is important to me that others not view my career as a failure

Intrinsic (self)

9. It is important for me to continue to learn and grow over the course of my career

10. It is important that I have opportunities for interesting work in my career
11. I am willing to gain experience through a wide variety of jobs or work assignments.
12. I want to continue to develop my technical/professional skills over the course of my career

Intrinsic (others)

13. I want to have a positive impact on other people through my work.
14. I want to do work that is important and meaningful
15. I want to have a positive impact on organizations and society through my work.

TIME 3 SURVEY

Professional Identification (repeated)

Heckman, D. R., Steensma, H. K., Bigley, G. A., Hereford, J. F. (2009). Effects of organizational and professional identification on the relationship between administrators' social influence and professional employees' adoption of new work behavior. *Journal of Applied Psychology, 94*, 1325-1335.

1. In general, when someone praises my profession, it feels like a personal compliment.
2. In general, when someone criticizes my profession, it feels like a personal insult.
3. When I talk about others in my profession, I usually say "we" rather than "they."
4. My field's successes are my successes.
5. If a story in the media criticized my profession, I would feel embarrassed.

Self Reported Goals

In this section we would like to get more information about your long term plans and goals once you finish graduate school. Career goals are objectives, projects, and plans related to your job, career, and occupation. These may be career goals or professional development goals related to short-term achievements such as getting a particular type of job or getting a job at a particular university/institution. Or they may be related to long-term achievements such as occupational aspirations related to distant goals. Career goals should be specific enough to know whether you achieved them, meaningful to you, and realistic.

1. Please give your TWO most important short-term occupational goals that you hope to achieve after graduation AND explain WHY these goals are important to you.

2. What is your ONE most important long-term occupational goal? A goal you hope to achieve someday in your work. Please also explain WHY this goal is important to you.

Note: for each of the goals that participants list, they will answer the following 6 questions

Goal Specificity

Adapted from Steers, R. M. (1976). Factors affecting job attitudes in a goal setting environment. *Academy of Management Journal*, *19*(1), 6-16.

1. This goal is very clear and specific
2. I have a clear sense of how to achieve this career goal

Goal Difficulty

Steers, R. M. (1976). Factors affecting job attitudes in a goal setting environment. *Academy of Management Journal*, *19*(1), 6-16.

1. This goal will require a great deal of effort from me to complete
2. This goal is quite difficult to attain.

Goal Commitment

Adapted from 7 item scale: Hollenbeck, J. R., Klein, H. J., O'Leary, A. M., & Wright, P. M. (1989). Investigation of the construct validity of a self-report measure of goal commitment. *Journal of Applied Psychology*, *74*(6), 951.

1. I am strongly committed to pursuing this goal
2. It would take a lot to make me abandon this goal

Career Goals—Long Term (Extrinsic/Status/Intrinsic)

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.

To what extent do you agree with each of the following statements regarding your **LONG TERM** career goals?

Extrinsic

16. It is important to me to achieve financial success in my career
17. One's success in this career can be judged by the amount of money one makes.
18. A high income is one of my career goals.

Status

19. It is important for me to be seen by others as a success in my career
20. I want to be seen as an influential person in my field.
21. I want to achieve a high social status in my career
22. Rank and status are important to me.
23. It is important to me that others not view my career as a failure

Intrinsic (self)

24. It is important for me to continue to learn and grow over the course of my career
25. It is important that I have opportunities for interesting work in my career
26. I am willing to gain experience through a wide variety of jobs or work assignments.
27. I want to continue to develop my technical/professional skills over the course of my career

Intrinsic (others)

28. I want to have a positive impact on other people through my work.
29. I want to do work that is important and meaningful
30. I want to have a positive impact on organizations and society through my work.