THE INTERPLAY OF SIMILARITY AND DISSIMILARITY IN PREDICTING CAREER AND RELATIONAL MENTORING OUTCOMES

by

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(Under the Direction of Lillian T. Eby)

ABSTRACT

A strong, consistent finding in the mentoring literature is that perceived similarity predicts a wide range of benefits for protégés. On the other hand, research on interpersonal relationships suggests there are also benefits to being in a relationship with a dissimilar other—something the mentoring literature often overlooks in favor of similarity. To remedy this, I integrate self-expansion theory (Aron & Aron, 1986) with Kram's (1985) mentoring theory to predict how dissimilarity and similarity jointly impact protégé outcomes. Specifically, I predict experiential dissimilarity influences a protégé's self-expansion and in turn relationship commitment and career self-efficacy, and that this relationship is moderated by deep-level similarity. These hypotheses were tested in a sample of online participants who were currently in informal and formal mentoring relationships. Results indicated that experiential dissimilarity and deep-level similarity had independent rather than interactive relationships with self-expansion, and self-expansion was related to relationship commitment and career self-efficacy.

INDEX WORDS: Workplace mentoring, Similarity, Dissimilarity, Self-expansion theory, Relationship commitment, Self-efficacy

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CHAPTER 1

INTRODUCTION

One of the strongest and most consistent predictors of positive mentoring outcomes for protégés (i.e., support and relational quality) is perceived deep-level similarity with their mentor (e.g., similarity in attitudes, values, beliefs; Eby et al., 2013; Ghosh, 2014). This is because mentoring after all is an interpersonal relationship, and perceiving similarity facilitates important relational processes such as interpersonal comfort (Allen et al., 2005), closeness (Reis & Rusbult, 2004), liking (Lankau et al., 2005), attraction (Byrne, 1971; Montoya et al., 2008), and ease of conversation (Fehr, 1997). Thus, any dissimilarity is often viewed as problematic—an issue seen as needing an "antidote" in the mentoring literature (Hu et al., 2014). Indeed, perceived mismatch with one's mentor is a frequently stated problem among protégés in formal mentoring relationships (Eby & Lockwood, 2005), and the benefits of informal mentoring are often attributed to an initial sense of identification and role modeling (Humberd & Rouse, 2016; Ragins & Cotton, 1999; Ragins et al., 2000). Taken together, research suggests that similarity is critical to seek out or develop in both formal and informal mentoring relationships.

However, a separate body of research suggests that there are also benefits to being in a relationship with a dissimilar other. Self-expansion theory, which originated in the romantic relationship literature, suggests that humans have a fundamental desire to self-expand, or to increase their self-efficacy by gaining new perspectives, identities, and resources from a relational partner (Aron & Aron, 1986). From this perspective, being in a relationship with someone who is different should offer more opportunities for self-expansion, as there are more

aspects of the other to potentially incorporate into oneself. Relationships marked by greater self-expansion are more satisfying (McIntyre et al., 2020) and increase individual growth and confidence (Mattingly & Lewandowski, 2013). Self-expansion theory would likewise predict that a dissimilar workplace mentor is more beneficial for protégé outcomes due to greater opportunity to self-expand. This prediction stands in contrast to the heavy focus on similarity in the mentoring literature (e.g., Burke et al., 1993; Deng et al., 2022; Menges, 2016). By focusing heavily on similarity in mentoring relationships we may be missing the potential benefit of dissimilarity for the primary purpose of mentoring: the protégé's development (Kram, 1985). Indeed, Kram's (1985) original mentoring theory posits that a key purpose of mentoring is for the protégé to gain competence, knowledge, and skills. Protégés shape their professional identity by "incorporat[ing] parts of the [mentor's] self-image" (Kram, 1985, p. 33). Therefore, a fuller understanding of how a protégé develops into a competent professional as a result of what their mentor has to offer that is different from them is yet to be realized.

The purpose of the present study is to incorporate self-expansion theory into mentoring research, as this theory offers promising insights into the interplay of dissimilarity and similarity for predicting favorable protégé outcomes (Eby & Robertson, 2020). Drawing from theories of self-expansion (Aron & Aron, 1986) and mentoring (Kram, 1985), the outcomes of career self-efficacy and relationship commitment are the focus of this study. I propose that these two outcomes are facilitated by protégé reports of self-expansion. Taking this approach offers a more nuanced perspective by examining the joint effects of similarity and dissimilarity for key mentoring outcomes. This study also answer calls of previous scholars who have suggested that the relationship between similarity, dissimilarity, and self-expansion is more complex than previous studies have captured (Slotter & Hughes, 2020). Theoretically, this study clarifies the

complex interplay between similarity and dissimilarity for critical mentoring outcomes by integrating a well-established relationship theory with Kram's (1985) original theory. Given scholars have suggested there may be an ideal combination of personal characteristics of mentors and protégés (Wanberg, 2003), it is important to explore these ideas empirically.

These ideas are examined in both formal and informal mentoring relationships. Although the structure and nature of formal vs. informal mentoring differ (Ragins & Cotton, 1999), exploring how similarity and dissimilarity jointly impact protégé outcomes is important for both types of relationships. There is a strong belief based in the similarity-attraction paradigm that, in general, humans cling to needing similarity to be attracted to a partner (in this case, for protégés to be interested in their mentor) (Byrne, 1971). Self-expansion theory takes a different approach and highlights the benefits to dissimilarity. Notably, self-expansion theory is a theory of naturally occurring, romantic relationships, which mimics an informal mentoring relationship (Aron & Aron, 1986; Ragins & Cotton, 1999). However, there is a focus in the literature that the initial sense of similarity is why informal relationships start off on a better foot than formal (Blake-Beard et al., 2008; Humberd & Rouse, 2016). These two findings are somewhat contradictory and applying self-expansion theory paints a fuller picture of how the personal characteristics of an informal relationship impact a broader range of outcomes because of self-expansion. Indeed, if the findings are supported, it could call for protégés' greater focus on dissimilarity in certain attributes when seeking their own mentor. For formal mentoring, organizations may struggle with how to best match protégés and mentors, and then matched pairs may struggle initially to get to know each other (Blake-Beard et al., 2008). This offers insight to organizations for what role similarity and dissimilarity should play in matching, as well as

insight for protégés and mentors into how to best leverage their similarities and differences to reap more benefits.

CHAPTER 2

THEORETICAL OVERVIEW

Self-expansion theory proposes that people enter into relationships, in part, to expand their potential efficacy by incorporating the other person's resources, skills, perspectives, and knowledge into their own sense of self (Aron & Aron, 1986). Although there are individual differences in the motivation to seek self-expansion, self-expansion is viewed as a core human need that everyone strives to fulfill (Aron et al., 2022). In other words, people desire to enhance their competence by gaining new abilities that help them achieve their goals (Aron et al., 2022). Self-expansion can occur through relationships with others, as new people offer new sources of expansion, or individually through engaging in novel, challenging activities (Aron et al., 2013; Mattingly & Lewandowski, 2013). The majority of self-expansion research has focused on close relationships outside the workplace (Aron et al., 2022), although self-expansion theory has recently been applied to the workplace in terms of self-expanding jobs (McIntyre et al., 2014), leader-follower relationships (Dansereau et al., 2013; Mao et al., 2019), and coaching relationships (Passarelli et al., 2022). McIntyre et al. (2014) explored how jobs with more self-expansion (i.e., opportunities for learning and having new experiences on the job) result in higher levels of organizational commitment and job satisfaction. Mao et al. (2019) found that leader humility increased follower self-expansion (and ultimately self-efficacy and performance), which was more likely when leaders were of the same age or gender (i.e., demographic similarity as a moderator). Lastly, Passarelli et al. (2022) explored but did not find support for the

hypothesis that leadership coaches' greater communication quality would increase coachees' self-expansion.

Although these studies provide insight into how self-expansion theory can be applied to the workplace, none provide a test of the interplay of similarity and dissimilarity as emphasized by self-expansion theory. In addition, existing research on self-expansion in organizational settings do not examine self-expansion as a key mechanism linking similarity and dissimilarity to relational outcomes at work. Further, none of the aforementioned studies offer insight into types of similarity and dissimilarity outlined by Aron and Aron (1986) and that have been shown as especially important in mentoring research (i.e., deep-level similarity over demographic similarity; Eby et al., 2013).

The process of self-expansion involves directly incorporating new aspects into one's sense of self. In relationships, as people learn more about their partner, they are exposed to new ideas, perspectives, and resources. They change their own self-concept, or who they view themselves as, by adding new positive and enriching aspects to their sense of self (Aron & Aron, 1986; Mattingly et al., 2014). For example, a classic study of self-expansion theory surveyed undergraduates over the course of 10 weeks and found that for students who reported falling in love, they described themselves with a greater number and diversity of self-descriptive phrases by the end of the study than those who had not fallen in love (Aron et al., 1995). Thus, self-expansion is sometimes referred to as a "literal expansion of self"—where people think of themselves as having an expanded self-concept (Aron et al., 2001, p. 480).

Recently scholars have suggested that self-expansion theory may be key to better understanding mentoring relationships and how protégés may gain competence by including aspects of their mentor into themselves (Eby & Robertson, 2020). Indeed, foundational features

of Kram's (1985) mentoring theory are consistent with the core ideas outlined in self-expansion theory (Aron & Aron, 1986). Mentoring theory emphasizes that the key purpose of mentoring is protégé's personal and professional development, and through the provision of mentoring support protégés have the opportunity to expand the self. For example, Kram (1985) provides an example of a protégé who, through hearing personal stories from her mentor, reflected on what her mentor had to offer and could then "incorporate new views of what is possible," in terms of work style and strategies, leading to self-transformation (Kram, 1996, p. 143). Mentoring relationships can also facilitate developing a new sense of identity and an "enlarged understanding of the self" (Kram, 1996, p. 142). Integrating self-expansion theory and Kram's (1985) mentoring theory strongly suggests that a mentoring relationship can offer new insights, resources, and perspectives that the protégé can incorporate into their own sense of self.

Two cross-sectional studies have examined self-expansion in mentoring relationships. Xu et al (2023) studied protégés in Chinese railway companies and found that general mentoring support was positively related to protege innovation, which was mediated by self-expansion. Using the same general sample, Liu et al. (2023) focused on the downstream effects of formal mentoring on safety performance, finding that formal mentoring predicted both self-expansion and subsequent self-efficacy, which ultimately improved safety performance. Although both studies lend support to the idea that mentoring relationships may be a source of self-expansion for protégés (and Liu et al. found that self-expansion was positively associated with self-efficacy), neither study focused on the role of similarity or dissimilarity in predicting self-expansion. Moreover, both studies focused on protégé outcomes (innovation, safety performance) aligned with organizational functioning rather than relationship functioning.

How Does Self-Expansion Occur? Dissimilarity as a Key Predictor

Self-expansion theory predicts that dissimilarities are attractive in a partner because of greater self-expansion opportunity (Aron & Aron, 1986). That is, the more different a partner is, the more aspects one has to incorporate into their self-concept. These differences provide contrast and challenge one's current self-concept structures (Aron & Aron, 1986). For instance, a mentor who is very skilled at forming bonds with his coworkers may discuss this skill with a protégé who struggles to connect with others. Through their relationship, the protégé may begin to see themselves as more interpersonally skilled because they have adopted this piece of the mentor—they now identify with the mentor because of this shared skill that can be used for their own goal pursuit. Thus, in this example, initial mentor-protégé differences serve as the *source* of self-expansion for the protégé (Aron & Aron, 1986).

Self-expansion theory is relatively unspecific as to which attributes of a relational partner one will incorporate into their own sense of self. Aron and Aron (1986) state that anything that has the potential to increase one's self-efficacy can be adopted. Although they mention numerous sources of self-expansion, such as "identities, knowledge, perspectives, possessions, health, skills/abilities, social status, and physical strength," (Aron et al., 2022, p. 3823) no sources are theoretically specified as essential for self-expansion. Aron and Aron (1986) note that "almost anything new, if it can be integrated, expands the self" (p. 24). Thus, self-expansion is relatively person and context specific, where people seek self-expansion based on their own needs and in areas where they desire to become more competent. In the context of mentoring relationships, a key goal is the protege's professional development (Kram, 1985). Many formal mentoring programs today use mentoring as an employee development opportunity to target employee growth, skill building, and competency development (Facteau et al., 2023). Protégés, through their relationship with their mentor, can gain competence and self-confidence by acquiring new

skills (Kram, 1985). The key to acquiring attributes is that the mentor is dissimilar from the protégé in ways that are potentially important to the protégé.

The present study focuses on protégé differences from the mentor in knowledge, skills, and abilities (KSAs) as potential sources of self-expansion opportunities, which from here on out is referred to as *experiential dissimilarity.* Knowledge is defined as holding information about a given domain, skills refer to having proficiency or competency in performing an activity, and abilities are more enduring capabilities to perform a range of activities (Morgeson & Dierdorff, 2011). Knowledge, skills, and abilities are mentioned as sources of potential self-expansion by Aron et al. (2022) and are often the target of employee development and training opportunities such as mentoring (Allen et al., 2009). Further, Wanberg et al. (2003) suggests that mentors should complement their protégés in terms of offering a new skill or background (Wanberg et al., 2003). Leadership research also suggests that lower status individuals will not gain much from a higher status person that does not have unique work-related abilities; again suggesting that experiential dissimilarity can be beneficial for professional growth (Mao et al., 2019). Taken together, theory, empirical research, and practical recommendations suggest that targeting KSAs through mentoring is important, and self-expansion theory suggests that differences in these attributes will serve as sources of self-expansion as the protégé incorporates new KSAs into their own sense of self.

Hypothesis 1: Experiential dissimilarity is positively related to self-expansion.

Similarity as a Moderator

Self-expansion theory argues that although dissimilarity increases the opportunity for self-expansion, there are *preconditions* to self-expansion, or conditions that when present, increases the likelihood of relationship development (Aron & Aron, 1986). These preconditions

help facilitate relationship formation, which paves the way for self-expansion to occur. Similarity is one such precondition; people must sense some similarity to believe a relationship is possible (Aron et al., 1996). There should be a degree of compatibility-- if the other person is so different that it seems impossible to develop a relationship, one may disengage or exit the relationship, potentially thwarting the opportunity for self-expansion (Aron & Aron, 1986). Thus, according to theory, similarity also plays a role in self-expansion.

Expanding on the interplay between similarity and dissimilarity, Aron and Aron (1986) argue that "*similarity* is the background on which *dissimilarity* plays a highly figural role" (p. 47). That is, if differences are so strong that they are unable to be integrated (e.g., political views, Sprecher et al., 2015), self-expansion is not likely to occur. In mentoring specifically, Kram (1985) also notes that the protégé will choose to emulate certain aspects of the mentor, while rejecting others. Thus, while experiential dissimilarity is key for self-expansion, the process may be inhibited if there are too many salient differences because individuals have likely already considered and rejected the alternative identity or attribute (Aron et al., 2005). Thus, similarity serves to bolster the effects of dissimilarity on self-expansion.

Ashforth et al.'s (2016) theory of personal identification at work further suggests that it is not necessary for people to identify with another person based on *every* attribute—rather, identification is more likely to occur for attributes that are central, distinctive, and enduring. Meta-analytic evidence has found that deep-level similarity (i.e., perceived overall similarity or similarity in attitudes, values, beliefs, or personality) has the strongest positive association with career support, psychosocial support, and relationship quality (compared to other predictors such as demographic similarity) (Eby et al., 2013). As such, I focus on how similarity in values,

attitudes, and beliefs, which are indicators of deep-level similarity (Eby et al., 2013), may strengthen the relationship between dissimilarity and self-expansion.

Values refer to enduring beliefs about how preferable a mode of conduct or end state is to a person; examples of values include equality, wisdom, ambition, or beauty (Rokeach, 1973). Attitudes, on the other hand, are "affective orientations toward *specific* objects and situations" which often stem from one's values (Rokeach, 1979, Pinder, 2008, p. 93). For example, a person may have a distasteful attitude towards a political party because they do not align with the person's core value of equality. Lastly, beliefs are underlying assumptions that a person holds about something being true or false (Rokeach, 1969), for example, the belief in a higher power. As can be seen in each definition, there is overlap in values, attitudes, and beliefs (e.g., the definition of values containing the word "beliefs"), and even scholars struggle to differentiate them (Dose, 1997). As such, I treat them as one construct for the remainder of the paper and refer to this construct as deep-level similarity.

Sharing attitudes, values, and beliefs with the mentor may allow the protégé to feel like a relationship is viable, increasing the likelihood of self-expansion occurring through their relationship (Aron & Aron, 1986). In addition, people are attracted to potential friends and romantic partners who are similar because it makes people feel validated in their own views and enhances communication, making interactions easier and more rewarding (Fehr, 1997). The importance of similarity in predicting relationship outcomes has received strong support in the social-psychology (e.g., Byrne et al., 1971) and mentoring (e.g., Allen & Eby, 2003; Lankau et al., 2005; Turban et al., 2002) literatures.

An experimental study by Aron et al. (2006) tested the core tenet that similarity (in this case, in interests) serves to help people feel as if a relationship has potential. The authors posed

that similarity is attractive when a person is unsure about relationship likelihood, and dissimilarity is attractive when one feels confident a relationship is possible. Relationship likelihood was manipulated by explicitly telling undergraduate participants they should either get along a bogus partner ("someone from another class") or that they were paired at random. The study was designed to mimic potential friendship. Similarity and dissimilarity were manipulated by providing participants with a list of the same or different interests of a bogus partner than those they had provided earlier. They found that when participants were in the relationship likelihood condition, they showed greater liking for a dissimilar bogus partner (vs. similar), while those in the relationship unlikely condition reported greater liking for a similar bogus partner (vs. dissimilar). This provides support for the notion that similarity is a "precondition" when one is uncertain that a relationship could develop and be maintained, while those who sense that a relationship is likely prefer dissimilarity presumably due to opportunity for self-expansion. Similarity here served as the reason people viewed a relationship as possible—providing support for the idea that similarity can bolster the effects of dissimilarity on self-expansion.

Taken together, both self-expansion theory and empirical research suggest deep-level similarity may serve as a moderator that strengthens the relationship between experiential dissimilarity and self-expansion. Applied to mentoring relationships, this suggests that deep-level similarity should bolster the effects of experiential dissimilarity on self-expansion.

> **Hypothesis 2:** The relationship between experiential dissimilarity and self-expansion is moderated by deep-level similarity, such that the relationship between experiential dissimilarity and self-expansion is stronger when deep-level similarity is higher.

Self-Expansion and Relationship Commitment

A key tenet of self-expansion theory is that relationships with higher levels of self-expansion are more satisfying (Aron & Aron, 1986; Aron et al., 2013; Mattingly et al., 2020). This is because self-expansion is viewed as a fundamental need—much like other relational needs such as belongingness (e.g., Baumeister & Leary, 1995). Thus, when self-expansion is lacking (e.g., partner offers no new resources), a person is less likely to want to be in that relationship. Because of this, research on outcomes of self-expansion in relationships has focused largely on relationship commitment and infidelity. Relationship commitment refers to when partners "accept their relationship as continuing indefinitely or direct their behavior towards ensuring its continuance" (Hinde, 1981, p. 14). In mentoring relationships, mentors and protégés will vary in "the level of commitment achieved" (Kram, 1985, p. 197) to each other. However, the extent to which mentoring functions can be provided depends upon how well the relationship is nurtured and maintained—without investment in the relationship, there cannot be as many benefits for protégés. Making an effort to maintain the mentoring relationship is key, as research suggests factors such as interaction frequency predict relationship quality (Eby et al., 2013). Although mentoring relationships are less likely to continue indefinitely than for example, a marriage, protégés may stay in touch with mentors after the relationship formally ends and redefine the relationship as colleagues or friends and begin to reap new benefits (Kram, 1985). Thus, relationship commitment is an important outcome of mentoring because it signals the protégé is making an effort to maintain rather than disengage from the relationship.

In the present study, relationship commitment refers to when protégés want to continue the relationship for the foreseeable future and make efforts to maintain the relationship. Research utilizing self-expansion theory generally finds that relationships marked by greater self-expansion have higher levels of commitment and partners are less likely to seek alternative

partners or commit infidelity. Self-expansion is also positively related to relationship commitment overtime; for example, McIntyre et al (2015) found in two different samples of participants in romantic relationships (i.e., one of faculty and staff at a university, and one in an MTurk sample) that self-expansion early on was positively related to relationship commitment 6 weeks later. By contrast, when a person does not see their relational partner as a source of self-expansion, they are more likely to consider alternative, new partners. For example, VanderDrift et al. (2011) found that people in real relationships with less self-expansion were more likely to show interest in fictitious dating profiles manipulated to be perceived as self-expanding (e.g., potential partner offered new experiences). They also found in a follow-up cross-sectional study that relational self-expansion was associated with less attention to alternative partners (e.g., disagreeing that there are "plenty of fish in the sea"). Not surprisingly then, current and perceived potential for self-expansion in one's relationship is related to infidelity intentions (Lewandowski & Ackerman, 2006), and actual self-reported infidelity amongst undergraduates (Mattingly et al., 2014). That is, when self-expansion is lacking, people tend to find ways to fulfill this desire which can include seeking out a new partner. In mentoring, self-expansion theory predicts that lower levels of self-expansion may result in seeking out a new mentor or disengaging from the relationship. On the contrary, protégés who have self-expansion needs fulfilled should want to continue the relationship and engage in maintenance behaviors so they can continue experiencing self-expansion.

Hypothesis 3: Self-expansion is positively related to relationship commitment.

Self-Expansion and Career Self-Efficacy

The primary purpose of self-expansion is to increase one's self-efficacy to facilitate goal achievement (Aron & Aron, 1986; Aron et al., 2022). Self-efficacy refers to the "beliefs in one's

capabilities to mobilize the motivation, cognitive resources, and courses of action needed to meet given situational demands" (Wood & Bandura, 1989, p. 408). Although scholars have studied general self-efficacy (e.g., Chen et al., 2001), which refers to the general belief that one is competent enough to perform well, Bandura (2005) emphasizes that self-efficacy is context-specific and the "one size fits all" approach is inappropriate when trying to predict outcomes in specific domains. Thus, the type of self-efficacy should reflect the domain one is interested in. When considering the purpose of mentoring, a main goal is for the protégé to develop into a competent professional. That is, through their relationship with their mentor, they gain the skills needed to achieve career goals (Kram, 1985). As such, an especially relevant outcome of mentoring is career self-efficacy, which refers to the belief that one is competent and able to manage their career (Kossek et al., 1998). This includes beliefs that one can tackle career-related problems, achieve career goals, and persist in the face of career difficulties. Theories of identification at work (which are grounded in self-expansion theory) also predict that efficacy-related outcomes will be primary results of expansion, such as self-enhancement, performance, and realization of ideal self (Humberd & Rouse, 2016; Ashforth et al., 2016). Specifically, identifying with a mentor provides an opportunity to enhance the self by acquiring new resources from a higher-status mentor.

Mattingly and Lewandowski (2013) tested self-expansion theory's tenet that expanding one's self-concept is related to self-efficacy. They conducted an experiment where participants were shown an image meant to represent their sense of self and were randomly assigned to conditions where they had to either manually expand the image as large as possible (growth condition with physical manipulation of the image), shrink the image as small as possible (control condition with physical manipulation of the image), or just look at the image (control

condition with no physical manipulation of the image). This experiment was meant to reflect the self-concept growth experienced through self-expansion. They found that those in the growth condition reported greater perceptions of general self-efficacy compared to both control conditions, indicating that expanding the sense of who you are relates to how confident you are in your general capabilities.

In the mentoring domain, Kram (1985) discusses how mentors can help protégés build their skills, increase their competence, and address self-confidence concerns. Empirical research supports this notion by finding that instrumental support (e.g., providing challenging assignments) is positively related to career self-efficacy (Day & Allen, 2004). Further, Kao et al. (2021) found that overall mentoring support was related to subsequent job search self-efficacy, or confidence in one's ability to find a new job. Similarly, Mao et al. (2019) found that self-expansion in leader-follower relationships was positively related to a measure of protégé's general self-efficacy. In the present study, self-expansion in mentoring should facilitate career self-efficacy specifically because mentors offer career related advice and guidance for the protégé to address career and job-related issues. As the protégé gains new KSAs by interacting with their mentor, they should expand their sense of self to feel more competent by having a new "toolkit" to utilize in future career decisions.

Hypothesis 4: Self-expansion is positively related to career self-efficacy.

Lastly, I propose moderated mediation for the self-expansion pathways. As outlined by self-expansion theory, the interplay of deep-level similarity and experiential dissimilarity should create higher levels of self-expansion opportunity within mentoring relationships (Aron & Aron, 1986). In turn, self-expansion increases one's self-efficacy (Mattingly & Lewandowski, 2013) — and in mentoring, the type of self-efficacy potentially important is career self-efficacy. Further,

self-expansion is empirically related to relationship commitment and negatively related to infidelity (Lewandowski & Ackerman, 2006; McIntyre et al., 2015). Thus, the indirect effects of experiential dissimilarity on career self-efficacy and relationship commitment should both be moderated by deep-level similarity.

Hypothesis 5: The positive indirect effect of experiential dissimilarity on career self-efficacy via self-expansion is moderated by deep-level similarity, such that the indirect effect is stronger when similarity is higher.

Hypothesis 6: The positive indirect effect of experiential dissimilarity on relationship commitment via self-expansion is moderated by deep-level similarity, such that the indirect effect is stronger when similarity is higher.

Informal vs. Formal Protégé Outcomes

Lastly, I test whether the hypothesized model demonstrates a similar pattern of effects for informal vs. formal protégés. Typically, formal protégés receive a mentor they do not know much about, and as such they have lower levels of initial identification than informal relationships (Humberd & Rouse, 2016). Thus, it could be the case that the moderation effect of similarity on the relationship between experiential dissimilarity and self-expansion is stronger for formal protégés than informal protégés, because developing similarity is more important for them to obtain positive outcomes. On the other hand, because informal relationships are based more on role modeling and identification, it could be that informal protégés rely more on this for their self-expansion than do formal protégés. As such, I explore this as a research question.

RQ1: Are there differences in the hypothesized model for informal vs. formal protégés?

CHAPTER 3

METHOD

Transparency and Openness

The present study was pre-registered (https://osf.io/gcu9q) and analytic code is provided in Appendix A. The study was approved by the University of Georgia Institutional Review Board (PROJECT00008986). After the pre-registration was completed, the sampling plan was modified after difficulties arose recruiting participants for the study. First, the number of surveys to be administered was changed from three to two, and the incentives were adjusted accordingly. Second, the criteria of being a formal protégé was expanded to also include informal protégés. Third, rather than the initial criteria of being in a relationship for between one and three months, protégés self-selected a description of their current mentoring stage: initiation, cultivation, separation, or redefinition (defined below; Kram, 1985). This ensured that participants were in a similar phase of their mentoring relationship, while also accounting for differences in relationship length between formal and informal mentoring relationships (Ragins & Cotton, 1999).

Sample and Procedure

Prior to data collection, a power analysis was conducted to determine the sample size needed to detect an interaction effect (Baranger et al., 2023). With alpha set at .05, the power analysis indicated that a final sample size of $n = 250$ was needed to obtain 80% power for an interaction effect size of .2 (see Appendix B for all values used). Anticipating 50% attrition over

two survey administrations, I aimed to recruit n = 500 participants at Time 1 to retain n = 250 by Time 2, three months later.

Participants were recruited via CloudResearch, an online crowdsourcing platform, which demonstrates superior data quality to other platforms such as MTurk (Hauser et al., 2022). *Connect,* one of the sub-platforms of CloudResearch, was used as it is reported to have the best data quality compared to other CloudResearch options (Moss, 2023). In May of 2024, *Connect* participants were invited to complete a short screener if they met the eligibility criteria of working full- or part-time and living in the United States. The screener survey included, among other distractor items, additional eligibility criteria of having workplace mentor (either formal or informal) and being in either the initiation or cultivation phase the mentoring relationship. These beginning phases of the mentoring relationship were chosen because they represent the time period of getting to know one's mentor (e.g., developing perceptions of similarity and dissimilarity) and reaping the benefits of mentoring (Kram, 1985). Further, self-expansion theory emphasizes the importance of perceptions of similarity and dissimilarity developing early on in a relationship, otherwise an individual may disengage (Aron & Aron, 1986).

Two online surveys were administered to protégés. At Time 1 (May 2024), measures of deep-level similarity and experiential dissimilarity were collected, along with questions asking about the nature of the mentoring relationship (e.g., length, interaction frequency). At Time 2, three months later (August 2024), the mediator and outcome variables were measured (i.e., self-expansion, relationship commitment, and career self-efficacy). The mentor's name was piped into questions across both surveys to ensure participants were thinking of the same mentor. Participants were paid $.40 for the screener, $6 for the first survey, and $7 for the second survey. Participants were sent two reminders per survey.

A total of 1,255 *Connect* participants completed the eligibility screener. A total of n = 574 participants met the eligibility criteria (i.e., working full- or part-time, living in the United States, in a formal or informal relationship, and in either the initiation or cultivation stage) and were invited to take the Time 1 survey. Of these 574 eligible participants, n = 517 completed the Time 1 survey (90.07% response rate) and n = 374 completed both Time 1 and Time 2 surveys (72.34% response rate). Data from five participants were removed because they completed the survey before adaptations were made to the survey based on new sampling criteria described above. Data from an additional n = 27 protégés at Time 2 were removed because they indicated that they were no longer in their mentoring relationship. Data were also removed from participants who failed any of the three attention checks (n = 26) or had a Recaptcha verification score of less than .5 (n = 12). Attention checks were developed in line with recommendations from Meade and Craig (2012). This brought the final sample size for hypothesis testing to n = 304.

Participant sociodemographic characteristics (and protégé reports of mentor sociodemographic characteristics) are reported in Table 1. The sample of protégés was predominantly male (56.25%), White (60.2%), and relatively young (M = 31.71, SD = 5.84), held a Bachelor's degree (56.58%), and worked an average of 40.03 (SD = 6.98) hours a week. Notably, this sample was relatively diverse compared to the racial composition of the United States, which consists of approximately 75% White, 13% Black or African American, 6% Asian, and 19.5% Hispanic or Latino (United States Census Bureau, 2023).

Their current salary level varied considerably, with the modal salary being $50,000-$74, 999 (31.91%). A range of industries were represented, with most participants in the professional,

scientific, or technical services industry (19.08%) followed by information (15.13%) and educational services (13.49%).

Participant reports of mentoring relationship characteristics are shown in Table 2. The final sample consisted of formal (52.3%) and informal (47.7%) protégés who were in the initiation (11.72%) and cultivation (88.28%) phases of their mentoring relationship. Relationship length varied considerably. Informal protégés reported being in their relationships for a range of less than one month to 5 years (M = 19.5 months, SD = 18.42 months, *mode* = 2 years, Mdn = 1 year). Informal protégés also reported being in their relationships for a range of less than one month to 5 years (M = 17.09 months, SD = 17.43 months, *mode* = 6 months, Mdn = 10 months). Most informal (66.67%) and some formal (39.24%) protégés indicated that their relationship had no specific end date. Of those who did indicate an expected length, formal protégés expected slightly shorter lengths (M = 32 months, SD = 21) than informal protégés (M = 38.08 months, SD = 21.58).

Overall, protégés reported interacting with their mentors for an average of 11.46 hours per month (SD = 8.67), or "frequently or very frequently" (67.12%). Protégés also provided information about their mentors. The mentors were predominantly male (66.67%), White (67.99%), and between the age of 45-54 (34.21%). Further, 70.49% of protégés had a mentor of the same gender and 62.95% had a mentor of the same race. 52% of protégés reported that their mentor was also their supervisor and 86.42% reported their mentor was in their same organization. Breakdowns by formal and informal mentoring are also reported in Table 2.

Measures

Multi-item scales were used to measure all constructs. As noted below, some scales were adapted to be applicable to a mentoring context. All study measures are in Appendix C (including original items and modified items, where applicable).

Protégé Status (Eligibility Screener)

Protégé status was measured by asking participants, "Mentoring is a developmental relationship in which a more advanced or experienced person (the mentor) agrees to provide career support to a less advanced or experienced person (the mentee). Do you currently have a work- or career-related mentor?" Responses were coded as 1= yes and 0 = no.

Mentoring Type (Eligibility Screener)

Mentoring type was measured by presenting participants with a definition of formal and informal mentoring, "Some mentoring relationships are developed formally, whereas others are developed informally. Formal mentorships are initiated by a third party (e.g., your organization, professional association). You may have been matched with a mentor or simply provided formal opportunities to develop the relationship. In contrast, informal mentorships develop spontaneously, without any formal assistance or third-party matching." This methodology mimicked Ragins and Cotton's (1999) study of informal and formal mentoring. Participants self-selected whether they were in an informal or formal relationship. If they selected "unsure," they were screened out.

Mentoring Stage (Eligibility Screener)

Mentoring stage was measured by asking which of Kram's (1985) mentoring stages best reflected their current relationship. The following definitions from Chao et al. (1997) were used:

> **Initiation phase:** My mentor and I are just starting a relationship. It is not clear if the relationship will evolve into a true mentorship.

Cultivation phase: My mentor is directly involved in my career development. I am learning a great deal from my mentor and they are taking active steps toward helping my career.

Separation phase: I have already learned a great deal from my mentor and am more focused on establishing my own reputation in the organization rather than being associated with my mentor.

Redefinition phase: The relationship has matured to be better described as one between two colleagues rather than senior mentor/junior protégé. Most of the help, guidance, and learning has already occurred; I've established my own reputation and we are good friends.

Deep-Level Similarity (Time 1)

Deep-level similarity was measured with 3-items based on Lankau et al.'s (2005) 6-item measure of similarity in mentoring relationships. Items included, "My mentor and I are similar in terms of our values," "My mentor and I are similar in terms of our beliefs," and "My mentor and I are similar in terms of our attitudes." Items were rated on a 7-point Likert scale ranging from *1 = strongly disagree* to *7 = strongly agree.* The original measure focused on different attributes (i.e., personality, interests, work values, outlook, problem-solving approach, and personal values); items were adapted to refer to the attributes of interest in the present study (i.e., values, attitudes, and beliefs). Cronbach's alpha in the present study was .83.

Experiential Dissimilarity (Time 1)

Experiential dissimilarity was measured with 3-items loosely based on Lankau et al.'s 6-item (2005) measure of similarity. Items included, "My mentor has important knowledge that I don't have," "My mentor has important skills that I don't have," and "My mentor has important

abilities that I don't have." The specific attributes included on the revised measure mapped onto the features of dissimilarity that aligned with mentoring theory and the items were changed to refer to differences with the mentor, rather than similarity. Items were rated on a 7-point Likert scale ranging from *1= strongly disagree* to *7= strongly agree.* Cronbach's alpha in the present study was .91.

Self-Expansion (Time 2)

Self-expansion was measured with Lewandowski and Aron's (2002) 14-item self-expansion scale adapted to the mentoring context. An example item is, "How much do you see your mentor as a way to expand your own capabilities?" Items were rated on the original measure's 5-point rating scale ranging from 1 = *to no extent* to 5 = *to a very great extent.* Cronbach's alpha was .96.

Relationship Commitment (Time 2)

Relationship commitment was measured with the 7-item commitment subscale of Rubsult et al.'s (1998) investment model. All items were adapted to be more applicable to the mentoring relationship, as some original items were highly specific to romantic relationships (e.g., "I want my relationship to last forever" was adapted to "I want my relationship to last."). An example item from the commitment subscale is, "I am committed to maintaining my relationship with my [mentor]." The original scaling was also be adapted from a 0 to 8 scale to a 7-point Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree.* Cronbach's alpha was .88.

Career Self-Efficacy (Time 2)

Career self-efficacy was measured with Biemann et al.'s (2015) 8-item career self-efficacy measure which was based on Chen et al.'s (2001) measure of general self-efficacy. Four items that referred to one's job were adapted to refer to one's career to be more in line with the

conceptual definition of career self-efficacy. An example item is, “I will be able to achieve most of the career goals that I have set for myself.” Items were rated on a 7-point Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree.* Cronbach’s alpha was .95.

CHAPTER 4

RESULTS

Preliminary Analyses

Recommendations by Newman (2014) were followed for handling missing data. For missing data on measures, items with complete data were averaged. For item-level analyses that had item-level missingness (i.e., confirmatory factor analysis), maximum likelihood estimation was used to maximize data retention.

Means, correlations, and standard deviations for the full sample are reported in Table 3 and Table 4 provides information for formal vs. informal protégés separately. The outcome variables (i.e., self-expansion, relationship commitment, and career self-efficacy) were moderately correlated (ranging from .50 to .66). As such, a series of confirmatory factor analyses were conducted to examine construct distinctiveness (see Table 5). The a priori 3-factor model in which self-expansion, relationship commitment, and career self-efficacy were treated as separate factors was compared to all possible 2-factor models and a 1-factor model. The 3-factor model (Model 1), demonstrated acceptable fit according to cutoff criteria recommendations (Hu & Bentler, 1999; Kline, 2005), $\chi^2(374) = 1080.741$, $p < .001$, comparative fit index (CFI) = .91, Tucker-Lewis index (TLI) = .90, root mean square error of approximation (RMSEA) = .08, and standardized root mean square residual (SRMR) = .05.

Next, the a priori 3-factor model was compared to all possible 2-factor models. First, self-expansion and relationship commitment items were combined to represent one factor, with career self-efficacy as a second factor (Model 2a). This model was more poorly fitting when

compared to the 3-factor solution (CFI = .82, TLI = .80, RMSEA = .11, SRMR= .07, $\Delta\chi^2$= 753.2, Δdf = 2, p < .001). In the next 2-factor model, items representing self-expansion and career self-efficacy were combined into one factor, with relationship commitment as a second factor (Model 2b). This 2-factor model also demonstrated poorer fit (CFI = .72, TLI = .70, RMSEA = .14, SRMR= .12) and the increase in chi square indicated that the a priori 3-factor model was superior ($\Delta\chi^2$ = 1491.2, Δdf = 2, p < .001). For the final 2-factor model, career self-efficacy and relationship commitment items comprised the first factor, with self-expansion items comprising the second factor. Again, this model demonstrated poorer fit (CFI = .76, TLI = .74, RMSEA = .13, SRMR= .11), and the change in chi square indicated superiority of the a priori 3-factor model ($\Delta\chi^2$ = 1206.28, Δdf = 2, p < .001). In the final model (Model 3) all items loaded onto a single factor. The 1-factor solution demonstrated poor fit (CFI = .64, TLI = .62, RMSEA = .16, SRMR= .12). Further, there was a significant increase in chi-square when compared to the a priori 3-factor model ($\Delta\chi^2$= 2135.5, Δdf = 3, p < .001). Taken together, the 3-factor model in which the outcome variables (i.e., self-expansion, relationship commitment, and career self-efficacy) were treated as separate factors fit the data best. Thus, I proceeded with hypothesis testing treating these variables as distinct constructs.

Before moving forward with testing the structural model, I tested a model using confirmatory factor analysis that included all variables in the model. Although there is technically no measurement model for manifest path analysis because constructs were measured as scale averages, this was done to first establish construct validity of all constructs. The measurement model with all study variables provided an adequate fit[1] to the data, $\chi^2(550)$ =

[1] The fit of the measurement model was poorer than expected. Modification indices and the residuals matrix were examined for any potential modifications. Most suggestions for improving model fit were related to item wording effects within the same scale. However, we did not allow these items to covary because there was not sufficient theoretical justification. Further, we ran an exploratory factor analysis to determine if there was more than one factor

1352.37, $p < .001$, CFI = .91, TLI = .91, RMSEA = .07, and SRMR = .05[2]. The correlations among factors are located above the diagonal in Table 3. Next, standardized factor loadings were examined. The three similarity items loaded significantly onto the similarity factor (ranging from .74 to .83), the three dissimilarity items loaded significantly onto the dissimilarity factor (ranging from .82 to .94), the fourteen self-expansion items loaded significantly onto the self-expansion factor (ranging from .68 to .86), as did the items for career self-efficacy (ranging from .77 to .88). All relationship commitment items loaded significantly onto the commitment factor; however, the one reverse coded item in the scale had a lower than desired (although statistically significant) loading on its respective factor (.22, $p < .001$). To maintain the integrity of the original measure, and because reliability of the full scale was acceptable ($\alpha = .88$), all items were retained for the commitment measure.

Hypothesis Testing

After demonstrating adequate fit of the measurement model, I moved on to testing the structural model. Hypotheses were tested using the *lavaan* package in R version 4.3.1 (Rosseel, 2012). Manifest path analysis was used to test the study hypotheses, a form of structural equation modeling where each construct is measured with observed variables (i.e., scale averages) (Kline, 2016). The structural model (Figure 1) had acceptable fit, $\chi^2(7) = 39.18$, $p < .001$, CFI = .92, TLI = .83, RMSEA = .12, SRMR= .08, although RMSEA was outside of the range of good fit (Hu & Bentler, 1999). Table 6 presents all standardized and unstandardized path coefficients.

in the self-expansion and career self-efficacy scales. A parallel analysis suggested using a 2-factor solution for both self-expansion and self-efficacy. However, many of the items in this solution cross-loaded, and in the original CFA, items loaded moderately to strongly on the respective factors. Thus, we did not make any changes to the measurement model.

[2] One item in the relationship commitment scale had poor measurement properties in the confirmatory factor model. The results were also run with this item removed, and the model demonstrated almost identical fit, $\chi^2(517) = 1296.10$, $p < .001$, CFI = .91, TLI = .91, RMSEA = .07, and SRMR = .05. Thus, it was retained.

Standardized beta weights are reported below in text because different scales were used for the study measures.

Hypotheses 1, 3, and 4 predicted main effects. Experiential dissimilarity was positively related to self-expansion ($\beta = .28$, $p < .001$), supporting Hypothesis 1. Although not hypothesized, deep-level similarity also had a positive direct effect on self-expansion ($\beta = .34$, $p < .001$). Self-expansion, in turn, was positively related to both relationship commitment ($\beta = .65$, $p < .001$) and career self-efficacy ($\beta = .52$, $p < .001$). Thus, Hypotheses 1, 3, and 4 were supported.

Hypothesis 2 predicted that the relationship between experiential dissimilarity and self-expansion would be moderated by deep-level similarity. To test this, the independent variable (i.e., experiential dissimilarity) and moderator (i.e., deep-level similarity) were mean-centered and then multiplied to create the interaction term. Results indicated that the effect of the interaction term on self-expansion was not significant ($\beta = .09$, $p = .08$). Because of this, I did not move forward with plotting the simple slopes. Thus, Hypothesis 2 was not supported.

Hypotheses 5 and 6 predicted moderated mediation. First, the indirect effects of dissimilarity on career self-efficacy and relationship commitment via self-expansion were examined (see Table 7). To obtain confidence intervals, non-parametric bootstrapping with 10,000 resamples was used. Moderated mediation was tested using Hayes' (2015) index of moderated as well as the difference between the indirect effects at higher and lower (+/- 1 *SD*) levels of deep-level similarity.

Results indicated that the indirect effect of experiential dissimilarity on career self-efficacy via self-expansion was positive and significant (*indirect effect* = .15, $CI_{95\%}$ = .08, .25). The indirect effect of experiential dissimilarity on career self-efficacy via self-expansion was

stronger at higher levels of deep-level similarity (*conditional indirect effect* = .20, $CI_{95\%}$ = .10, .33) but not significant at lower levels of deep-level similarity (*conditional indirect effect* = .10, $CI_{95\%}$ = -.01, 22). However, the difference between the conditional indirect effects was not significant (*difference* = .10, $CI_{95\%}$ = -.04, .27), nor was the index of moderated mediation (*index* = .06, $CI_{95\%}$ = -.02, .16). Thus, even though the indirect effect was stronger at higher levels of deep-level similarity, Hypothesis 5 was not supported because the difference between the effects and the index of moderated mediation were not significant.

Results indicated that the indirect effect of experiential dissimilarity on relationship commitment via self-expansion was positive and significant (*indirect effect* = .21, $CI_{95\%}$ = .11, .33). This indirect effect was stronger at higher levels of deep-level similarity (*conditional indirect effect* = .28, $CI_{95\%}$ = .15, .44) but not significant at lower levels of deep-level similarity (*conditional indirect effect* = .14, $CI_{95\%}$ = -.01, .30). However, the difference between the conditional indirect effects again was not significant (*difference* = .14, $CI_{95\%}$ = -.06, .37), nor was the index of moderated mediation (*index* = .08, $CI_{95\%}$ = -.03, .21). Thus, Hypothesis 6 was not supported.

Exploratory Analyses

Next, exploratory analyses were conducted to test whether the hypothesized model held similarly for informal and formal protégés. To test this, multigroup path analysis was used to examine the path coefficients separately for informal (n = 145) and formal (n = 159) protégés (see Tables 8 and 9). For the informal protégé group, experiential dissimilarity was positively related to self-expansion (β = .34, p < .001), deep-level similarity was positively related to self-expansion (β = .25, p < .001), and self-expansion was in turn related to relationship commitment (β = .55, p < .001) and career self-efficacy (β = .46, p < .001). For the formal protégé group,

experiential dissimilarity was positively related to self-expansion (β = .17, p = .02), similarity was positively related to self-expansion (β = .39, p < .001), and self-expansion was in turn related to relationship commitment (β = .72, p < .001) and career self-efficacy (β = .59, p < .001). In terms of moderation, the interaction between experiential dissimilarity and deep-level similarity on self-expansion was not significant for the informal (β = .09, p = .42) or formal group (β = .10, p = .32).

To test if the path coefficients for formal vs. informal protégés were significantly different from each other, the difference between the standardized path weights was computed and 95% confidence intervals were constructed using 10,000 resamples. The difference between path weights for formal vs. informal protégés for the relationship between experiential dissimilarity and self-expansion was not significant (β = .21, $CI_{95\%}$ = -.05, .42). The difference between path weights for formal vs. informal protégés for relationship between self-expansion and relationship commitment was also not significant (β = -.18, $CI_{95\%}$ = -.56, .03). Finally, the difference between path weights for formal vs. informal protégés for the relationship between self-expansion and career self-efficacy was not significant (β = -.12, $CI_{95\%}$ = -.41, .25). Taken together, although the standardized path coefficients appeared visually different for the informal vs. formal protégé groups, the difference was not significant, preventing any formal conclusions that the model held differently based on mentorship type.

Supplementary Analyses

To account for the entire measurement model, a fully latent structural model was also tested, where individual items were used as indicators. The fully latent SEM approach is beneficial in that it fully accounts for the measurement model compared to path analysis (Kline, 2016). As noted in the study pre-registration, a latent approach would be tested if reliability

among study measures was poor. Even though all measures demonstrated reliability above α = .82, we were interested in seeing whether a latent approach provided different estimates. Further, the fit of the structural model in the primary analyses was poorer than expected. Although the study pre-registration suggested using partially latent path analysis, a new package within R, modsem, was released after pre-registration that allows testing fully latent interactions automatically (Slupphaug et al., 2024). Compared to the path analysis model fit, the fit of the latent structural model was better, $\chi^2(831) = 1901.25$, $p < .001$, CFI = .90, TLI = .89, RMSEA = .07, and SRMR = .06, although CFI was lower. Compared to the path analysis results, in the latent structural model, the relationship between experiential dissimilarity was stronger (β = .33, $p < .001$), as was the relationship between self-expansion and both relationship commitment (β = .75, $p < .001$) and career self-efficacy (β = .57, $p < .001$). The interaction between deep-level similarity and experiential dissimilarity on self-expansion, however, was still nonsignificant (β = .04, $p = .51$). For the index of moderated mediation, confidence intervals were computed using Selig and Preacher's (2008) online platform. The index of moderated mediation was still nonsignificant for the outcomes of relationship commitment (*index* = .03, $CI_{95\%}$ = -.06, .11) and career self-efficacy (*index* = .02, $CI_{95\%}$ = -.05, .09). Taken together, accounting for the full measurement model did not significantly change the pattern of results, although the main effects became stronger.

CHAPTER 5

DISCUSSION

The present study integrated self-expansion theory (Aron & Aron, 1986) with workplace mentoring theory (Kram, 1985) to examine how experiential dissimilarity and deep-level similarity relate to career and relational mentoring outcomes. Considering the emphasis placed on similarity in the mentoring literature, the current study aimed to elucidate when and why differences may produce beneficial outcomes for protégés. In a sample of 145 informal and 159 formal protégés, the study found mixed support for the hypotheses. In support of self-expansion theory, results indicated that experiential dissimilarity was related to protégés' reports of self-expansion, and self-expansion was in turn related to higher relationship commitment and career self-efficacy. This lends support to core tenets of self-expansion theory that emphasize differences create opportunities for self-growth, creating relationships that people want to stay and invest in and fostering one's expanded capabilities. Also consistent with self-expansion theory, support was found for the indirect effects of experiential dissimilarity on the outcomes via self-expansion. These results were found in a sample of relatively racially diverse individuals, suggesting the findings may generalize to different racial and ethnic groups.

However, one of the key associations of interest was the role that deep-level similarity played in the process outlined above. Self-expansion theory claims similarity serves as a signal that a relationship is feasible or worthwhile, increasing the likelihood that an individual will invest in, and benefit from, a relational partner (Aron & Aron, 1986). The present study tested this key assumption of self-expansion theory; namely that similarity allows protégés to find

common ground, which increases the likelihood that they will benefit from a mentor's dissimilarity and subsequently self-expand. No support was found for this moderation effect, even though the sample size met the criteria to detect an interaction effect based on an a priori power analysis (see Appendix B). This calls into question how essential this tenet of self-expansion theory is for workplace mentoring, which is discussed in the theoretical contributions below.

Of note, the results should be interpreted with caution due to some unexpected characteristics of the obtained *Connect* sample. Specifically, 52% of protégés reported that their mentor was their supervisor (54.61% for informal, 51.27% for formal). Although supervisory status was not significantly correlated with any of the study variables (see Table 3), this sample characteristic may have implications for how well this study can inform mentoring theory and practice. Mentoring theory suggests that formal mentoring relationships are developed with outside assistance, usually in the form of assignment or matching in an organizationally sanctioned formal mentoring program, whereas informal mentorships develop spontaneously and without organizational assistance (Ragins & Cotton, 1999). Kram (1985) states that mentors can be supervisors, but research suggests that supervisory mentoring operates somewhat differently than we traditionally think about formal and informal mentoring. For instance, some research has found that supervisory mentors can provide more mentoring support than informal or formal mentors (Burke & McKeen, 1997; Payne & Huffman, 2005). This may be because supervisory mentors have more frequent contact with protégés, are more familiar with protégés' strengths and areas in need of development, and have more opportunities to advance the protégé's career (e.g., connecting them to important individuals) compared to non-supervisory mentors (Booth, 1996; Eby & Dolan, 2014). Conversely, the power differential associated with supervisory

mentoring relationships and fact that supervisors are responsible for administrative decisions that affect subordinate protégés may place boundaries on relational closeness (Eby & Dolan, 2014). The current study is somewhat different from existing research by capturing a sizable number of supervisory mentors, about half of which were classified as formal mentorships.

To explore supervisory status further, post hoc analyses were conducted using measures of mentoring support (Robertson & Zhang, 2024), which were collected as part of the study but not included in the proposed model. Interestingly, neither psychosocial support, $t(297) = -1.51$, $p = .13$, nor career-related support, $t(297) = .35$, $p = .72$, differed based on whether the mentor was the protégé's supervisor. Further, when comparing[3] supervisory ($n = 158$) to non-supervisory ($n = 141$) mentoring, the pattern of correlations were similar (see Table 10). The correlation between experiential dissimilarity and self-expansion was $r = .36$ ($p < .001$) for non-supervisory mentoring and $r = .32$ ($p < .001$) for supervisory mentoring. The relationship between self-expansion and relationship commitment was $r = .66$ ($p < .001$) and $r = .65$ ($p < .001$) for non-supervisory and supervisory mentoring, respectively. Finally, the relationship between self-expansion and career self-efficacy was $r = .45$ ($p < .001$) and $r = .55$ ($p < .001$) for non-supervisory and supervisor mentoring, respectively. Thus, even though the current study's findings should be considered in light of the large proportion of supervisory mentorships (particularly formal mentorships), there did not appear to be major differences between supervisory and non-supervisor mentorships on the measures collected in the current study.

Theoretical Contributions

The present study makes theoretical contributions for both self-expansion theory and mentoring theory. For self-expansion theory, this study offers an empirical test of the interaction

[3]Five participants did not answer the question asking whether their mentor was their supervisor, which is why the total does not sum to $n = 304$.

between dissimilarity and similarity initially proposed by Aron and Aron (1986). Much of the social-psychological research on self-expansion theory has been conducted in experimental settings, often manipulating similarity vs. dissimilarity and examining the impact on outcomes such as perceived self-expansion opportunities, relationship interest, or attraction (Amodio & Showers, 2005; Aron et al., 2006; Sprecher et al., 2015; Sprecher, 2019). Other social-psychology research on the theory utilizes survey methods to examine how self-expansion relates to relationship outcomes (Lewandowski & Ackerman, 2006; McIntyre et al., 2015). No single study to my knowledge has tested the full theoretical process outlined by self-expansion theory -- the joint interactive effects of similarity and dissimilarity predicting self-expansion, which in turn predicts downstream outcomes. Notably, the current study did not find support for the interaction as proposed by self-expansion theory. Rather, similarity and dissimilarity were found to demonstrate significant main effects on self-expansion. This suggests that in workplace mentoring relationships, experiential dissimilarity relates to self-expansion regardless of whether deep-level similarity is higher (and vice versa), showcasing the importance of considering *both* dissimilarity and similarity in mentoring research. This is still an important consideration, given the heavy emphasis on similarity in the extant literature on workplace mentoring (e.g., Burke et al., 1993; Deng et al., 2022; Menges, 2016). At a broader level, this also questions how applicable the interaction between similarity and dissimilarity is for interpersonal relationships in general as originally proposed by Aron and Aron (1986).

Another contribution is that mentoring research and theory would benefit from considering the more integral role that experiential dissimilarity may play in not only predicting career-outcomes, but also interpersonal outcomes. This is in contrast to theories such as the similarity-attraction-paradigm (Byrne, 1971) which suggest that perceived similarity is critical

for relationship functioning, largely ignoring how differences can be beneficial. Given we already know that perceived similarity is a robust predictor of relationship quality in mentoring (Eby et al., 2013), this study suggests that experiential dissimilarity deserves a place in predicting relationship outcomes as well. This will help mentoring research gain a fuller perspective of how personal characteristics impact both interpersonal and career outcomes.

This study also offers interesting implications for research on formal mentoring and supervisory relationships. About half of formal protégés indicated that their mentor was their supervisor. Thus, the present study takes a broader, perhaps more all-encompassing approach than is often studied in formal mentoring research (e.g., a structured, organizationally sanctioned program). The findings may thus apply to a wider range of formal protégés than just those in organizational programs, such as those in professional associations, clubs, and even supervisory relationships. However, it was unexpected that so many formal protégés reported their mentor being their supervisor, when we did not specify selecting one's supervisor in the survey. One explanation may be that supervisors are viewed as mentors if they care about the subordinate's well-being and development, whereas supervisors not viewed as mentors are primarily focused on task-related performance (Booth, 1996). Mentoring research may benefit from expanding the current view that formal mentoring refers solely to organizationally sanctioned, structured mentoring programs to also consider supervisory relationships that are viewed by protégés as being a type of formal mentoring. Raabe and Beehr (2003) proposed that we tend to think of mentoring as informal or formal, when in reality mentoring can be provided from many different individuals both within and outside the organization (e.g., supervisors, coworkers, professional association members) (Eby, 1997). One way to integrate these ideas could be applying leadership theory to mentoring research. For instance, Raabe and Beehr (2003) note that although

leadership theory is somewhat disjointed from mentoring theory, theories such as LMX would integrate well with mentoring research (Raabe & Beehr, 2003). They propose that because LMX theory is a dyadic theory involving social exchange, there are many parallels with mentoring. Additionally, implicit leadership theory (Eden & Leviatan, 1975) could be used to inform why, interestingly, some protégés viewed their supervisors as mentors and not others. Implicit leadership theory outlines how followers form cognitive representations of a leader that they use to infer the leader's behaviors and outcomes (Lord et al., 2020), which could inform how subordinates form impressions of leaders as a mentor who will care about their development in the future. Using both mentoring and leadership theory could better disentangle the differences between formal, informal, and supervisory mentoring so as to better understand what makes these mentorships similar as well as unique.

Finally, a majority of participants stated they were in the cultivation phase (88.28% for informal; 90.57% for formal) and in their relationships for about a year and a half (see Table 2). For informal protégés, this largely aligns with Kram's (1985) mentoring stages where the initiation phase lasts between six months and a year and cultivation lasts between two and five years. Interestingly, formal protégés reported being in the relationship for a similar length and also in the cultivation phase. Considering little research has been conducted on the phases in formal relationships, this would suggest the phases follow a similar pattern for formal and informal. However, more research should be done in formal relationships of shorter lengths, which may better reflect how formal relationships are typically studied (e.g., being around 1 year long) (Ragins & Cotton, 1999).

Practical Implications

The present study has implications for workplace mentoring relationships, although these should be considered in light of the limitations listed in the subsequent section. First, workplace mentoring would benefit from a focus on how to increase self-expansion for proteges. Self-expansion and experiential dissimilarity accounted for 26% of the variance in career-self efficacy and 43% of the variance in relationship commitment. Although there is still unexplained variance unaccounted for by these two variables, this suggests that experiential dissimilarity and self-expansion should be considered when attempting to foster positive protégé outcomes. As recommended by mentoring scholars, self-expansion theory may serve an important role in mentoring research to help understand protégés' relational and professional development (Eby & Robertson, 2020). Given the struggles for protégés, especially in formal relationships, to stay committed and nurture the relationship (Eby et al., 2005), self-expansion could be targeted as one way to improve this. For example, mentors could be informed of the importance of their protégé gaining new skills and growing their competence. This could be incorporated into mentor training practices. For instance, mentors could complete a worksheet where they are asked to identify their most valuable KSAs they can bring to a mentoring relationship. Then, the training could discuss how to leverage those specific KSAs to benefit the protégé. Further, training could incorporate research related to ideal selves that could help facilitate self-expansion. For example, having protégés identify what their ideal self looks like in comparison to where they are now may help them identify areas where they could learn from their mentor as a way to develop and grow in those areas, facilitating self-expansion. Focusing on ideal and current selves has been suggested by previous mentoring researchers as well (e.g., Humberd & Rouse, 2016; Ragins, 2012).

Finally, consideration should be given to both similarity and differences when either matching pairs in formal mentoring or seeking out mentors in informal mentoring. Because informal mentorships begin with higher levels of identification (Ragins & Cotton, 1999), it may be the case that protégés primarily seek out mentors who they see as role models and similar to themselves. However, if self-expansion is a goal, informal protégés may want to give more weight to the importance of seeking a mentor who offers new perspectives—such as different knowledge, skills, and abilities. For formal mentoring, how to best match protégés and mentors is a key design decision that organizations may struggle with. Allen et al.'s (2009) practical guide to mentorship suggests, "the matching process may be the single most important factor contributing to a successful mentoring relationship, but one in which we have the least research evidence to provide guidance" (p. 37). A practical recommendation from this study is that protégés should *both* mesh well with a potential mentor in terms of core values, but likely just as important is the unique KSAs that mentor offers. A combination of both is likely to yield more beneficial outcomes such as self-expansion. This is not to say that similarity should not be considered—similarity still predicted self-expansion in this study. The implication is that both should be considered when attempting to foster self-expansion and downstream outcomes in mentoring. One specific recommendation is that protégés could complete a questionnaire asking them to identify their key values, attitudes, and beliefs that matter to them in a mentoring relationship, as well as what skills they hope to obtain through the relationship. This could then be matched with a mentor's responses to find an optimal combination of deep-level similarity and experiential dissimilarity. For example, Cardinal Health has mentors and protégés fill out questionnaires that are then fed into an algorithm that generates a list of "best mentor matches" that protégés can then choose from based on what matters to them (Moss, 2015).

Further, if mentors and protégés find themselves in a relationship with someone dissimilar in their core values, this research implies it is important to remedy these differences. Research in social-psychology suggests that one way to combat this could be perspective taking exercises. For example, a study on interracial relationships found that perspective taking improved self-expansion and relationship quality (Caselli & Machia, 2021). Thus, if mentors and protégés are provided with resources or training, a perspective taking activity could be one included recommendation. Mentor altruism and protégé core self-evaluations have also been shown to weaken the relationship between dissimilarity and lower mentoring support (Hu et al., 2014). Selecting on or training mentors and protégés in these characteristics could help prevent dissimilarity having negative outcomes. In terms of informal mentoring, proteges could seek out mentors who offer unique KSAs if they are provided opportunities by the organization to see what potential mentors have to offer; for example, networking events or a database of "experts" in certain areas could be provided for protégés to identify these types of mentors.

Limitations

The present study has several limitations. First, causality cannot be determined given two time points to test mediation. Common method bias is a concern for the measures collected at the same time point (i.e., self-expansion, career, self-efficacy, and relationship commitment) (Podsakoff et al., 2003). That is, it could be that part of the reason self-expansion was related to these outcomes was due to biases arising from participants rating these measures at the same time (e.g., consistency motif or their affective state). However, there is strong theoretical rationale that these variables are distinct and that self-expansion should precede relationship commitment and career-self efficacy (Aron et al., 2013). It could also be that the association is reciprocal. For example, self-expansion may increase relationship commitment, but as protégés

become more committed, they also experience more opportunities for continual self-expansion. Future research using longitudinal methods with multiple time points is needed to better understand the potentially complex association between self-expansion and mentoring outcomes.

Importantly, it is difficult to determine how well these results generalize to mentoring as it is typically defined and studied. There were some unique characteristics of the mentoring relationships, especially formal relationships, that were not completely in line with mentoring theory. As mentioned previously, protégés in formal and informal relationships had an average duration of similar lengths (see Table 2), despite this being a key difference between formal and informal mentoring (Ragins et al., 2000). However, the median and modes were different and more closely mirrored traditional lengths in informal (*mode* = 2 years, *Mdn* = 1 year) and formal (*mode* = 6 months, *Mdn* = 10 months) mentoring. Thus, outliers may have influenced this average and perhaps the most common time frames more closely mimic the shorter vs. longer durations of formal and informal mentoring, respectively.

Table 11 displays additional characteristics of the formal mentoring relationships in the current study. Most formal protégés were able to provide input into their match (72.33%), which is in line with Allen et al.'s (2006) research demonstrating that mentee input is related to relationship quality and mentoring support. Further, almost 85% of formal protégés indicated that their organization provided some type of training, in line with best practice recommendations by Allen et al. (2009). Only about 21% of formal protégés indicated they completed a mentoring contract, which is recommended but not extremely prevalent (Facteau et al., 2023). Further, about 45% of formal protégés indicated the organization provided events for mentors and protégés to interact. This is not necessarily a defining feature of formal mentoring, but it is suggested as beneficial to provide these opportunities for interpersonal connection (Allen

et al., 2009). Thus, these features largely overlap with characteristics of formal mentoring and largely align with best practices.

However, the open-ended questions about the formal mentoring relationship are a bit less clear as to how well the present study captured formal mentoring as typically defined. First, formal protégés were asked how they were matched with their mentor. Some comments did reflect typical matching done within formal mentoring programs, such as, "we were matched by the mentorship committee of our professional organization," "the Women in Business organization I am a part of appointed the mentor," and "I was put in a program to develop and train employees to elevate their organizational skillset." Others, however, included, "I sought him out. He was in a position that I wanted to be promoted to," "just kind of happened," and, "my mentor offered to mentor me." Considering a major characteristic of formal mentoring is being matched by a third-party (Ragins & Cotton, 1999), this brings into question how reflective these relationships were of formal mentoring and may instead reflect informal mentoring. Participants were also asked the goals of the formal mentoring relationship. A few representative quotes include, "growing within the company and professional skills," "set me up for internal promotions," and "to get me up to speed with the company work and culture." This is largely in line with Facteau et al.'s (2023) review of the current practices of Fortune 500 mentoring programs, where primary goals included facilitating development, providing socialization, preparing for upper-level positions, and improving culture or belonging. Thus, it appears that the goals for this sample align with the purpose of formal mentoring, but the matching process may indicate these relationships were not necessarily formal in the way research discusses (e.g., Ragins & Cotton, 1999).

Future Directions

The present study examined attitudes, values, and beliefs, as well as knowledge, skills, and abilities quite broadly. Future research could explore more specific characteristics that are beneficial to a protégé as well as boundary conditions. As one example, Humberd and Rouse (2016) discuss how someone who highly identifies with the role of being a parent may need a mentor who also values this role, as they can provide advice and perspective that the protégé needs and benefits from. Sharing this specific value (e.g., family centrality; Carr et al., 2008) may allow the protégé and mentor to connect on common issues, helping the protégé to grow as a working parent through the mentor's advice and experience. Future research could explore what specific values, attitudes, or beliefs most matter to protégés. Further, research could delineate which KSAs a mentor should have that a protégé can benefit from to self-expand, and potential moderators of this relationship such as industry needs (e.g., perhaps a certain KSA is especially important for a certain industry). By exploring how specific attributes impact self-expansion, a fuller picture of how self-expansion develops in mentoring relationships can be realized and used to improve workplace mentoring relationships.

Research would also benefit from the mentor's perspective on their own self-expansion. How might a protégé impact their mentor's self-expansion? This could be applied to newer forms of mentoring such as reverse mentoring, where lower-level employees mentor higher-level employees (Kobie, 2022). Self-expansion theory suggests that both relational partners should benefit from self-expansion (Aron & Aron, 1986), so this could be an interesting angle for how mentors benefit, bolstering the body of research on how mentors also benefit from mentoring (e.g., Ghosh & Reio, 2012). Or, it could be that mentors have less opportunity to self-expand due to their higher status and greater resources (Eby & Robertson, 2020).

In addition, individuals differ in their desire to seek self-expansion, termed *self-expansion motivation* (Aron et al., 2013). Although self-expansion is viewed as a fundamental need, some people desire to seek out more expansion than others. This implies that protégés who have little opportunity to self-expand in mentoring relationships may be especially dissatisfied if they are higher in self-expansion motivation. Perhaps future research could explore how protégés higher in self-expansion differentially navigate mentoring relationships; for example, maybe they inquire more about what unique KSAs their mentor has to offer that may be of interest to them, while a protégé lower in self-expansion motivation may not seek this information out as much.

Lastly, future research could examine additional predictors of self-expansion beyond personal characteristics, given there was variance unaccounted for self-expansion. A substantial body of research in social psychology has focused on how self-expanding activities that are novel and challenging improve relationship outcomes (Aron et al., 2013). For example, in a randomized control trial, couples who underwent an intervention where they were encouraged to try new, exciting activities together (e.g., reading a book they wouldn't normally read) demonstrated higher relationship satisfaction than those in the waitlist-control group (Coulter & Malouff, 2013). Mentors and protégés could be encouraged to attend events such as professional talks, networking events, or skills workshops together which could serve as self-expanding activities to enhance relationship outcomes.

CHAPTER 6

CONCLUSION

This study offers insight into the role that deep-level similarity and experiential dissimilarity play in workplace mentoring relationships. Results indicated that experiential dissimilarity was related to self-expansion, which was in turn related to relationship commitment and career-self efficacy. However, no support was found for the moderating role of deep-level similarity, but deep-level similarity also had an independent effect on self-expansion. Thus, it appears that both deep-level similarity and experiential dissimilarity matter in workplace mentoring relationships. The study advances mentoring theory by emphasizing the role of self-expansion for protégé outcomes, and it also contributes to self-expansion theory by more fully testing key tenets suggesting an interplay between similarity and dissimilarity.

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Table 1

Sociodemographic Information

Variable (Protégé)	*M* or %	*SD*	Variable (Mentor)	*M* or %
Protégé			*Mentor*	
Age	31.71	5.84	Gender	
Job tenure	4.13	3.7	Man	66.67%
Work hours	40.03	6.98	Woman	32.67%
Gender			Nonbinary	0.66%
Man	56.25%		Race	
Woman	42.43%		White	67.99%
Nonbinary	1.32%		Asian	9.90%
Race			Black/African-American	8.58%
White	60.2%		Hispanic	5.94%
Asian	14.8%		Multiracial	3.3%
Multiracial	9.54%		Other	1.98%
Black/African-American	7.89%		Unsure	1.65%
Hispanic	4.93%		American Indian/Alaska Native	0.33%
Latinx	1.64%		Latinx	0.33%
Other	0.99%		Age	
Education level			45-54	34.21%
Bachelor's degree or equivalent	56.58%		35-44	33.55%
Master's degree or equivalent	19.08%		55-64	14.47%
High school diploma or equivalent	8.22%		25-34	12.83%
Associate's degree or equivalent	8.22%		Unsure	1.97%
Doctorate degree or higher	4.93%		65-74	1.64%
Professional degree	2.30%		18-24	1.32%
Less than high school	0.33%			
Some college	0.33%			
Salary				
$50,000 - $74,999	31.91%			
$25,000 - $49,999	21.05%			
$75,000 - $99,999	20.07%			
$100,000 - $149,999	18.42%			
Less than $25,000	4.28%			
$150,000 or more	4.28%			
Job level				
Mid-level	48.36%			
Entry-level	25.99%			
Manager	22.70%			
Senior-level	2.96%			

Industry	
Professional, scientific, or technical services	19.08%
Information	15.13%
Educational services	13.49%
Other	11.51%
Health care or social assistance	10.53%
Finance or insurance	6.58%
Manufacturing; Mining	4.28%
Retail trade	3.95%
Construction	2.96%
Admin support, waste management, or remediation services	2.63%
Arts, entertainment, or recreation	2.30%
Transportation or warehousing	1.97%
Utilities	1.64%
Management of companies or enterprises	1.32%
Real estate or rental and leasing	1.32%
Accommodation or food services	0.66%
Forestry, fishing, hunting, or agriculture support	0.66%

Note. N = 304. The multiracial category includes participants who selected two or more racial categories.

Table 2

Relationship Characteristic Information by Mentoring Type

Variable	*M* or %	*SD*
Mentoring type		
Informal	47.7%	
Formal	52.3%	
Relationship length (in months)		
Informal	19.50	18.43
Formal	17.09	17.43
Expected relationship length		
Informal		
No expected end date	66.67%	
Set end date	33.33%	
Expected months (if set end date)	38.08	21.58
Formal		
No expected end date	39.24%	
Set end date	60.76%	
Expected months (if set end date)	32	21.21
Interaction hours per month		
Informal	11.84	8.71
Formal	11.15	8.66
Mentoring phase		
Informal		
Cultivation	88.28%	
Initiation	11.72%	
Formal		
Cultivation	90.57%	
Initiation	9.43%	
Mentor supervisory status		
Informal		
Yes	54.61%	
No	45.40%	
Formal		
Yes	51.27%	
No	48.73%	

Note. $N = 304$. For expected length, protégés could select either "there is no expected end date" or provide the expected number of months.

Table 3

Means, Standard Deviations, and Correlations for Entire Sample

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Race	.40	.49													
2. Gender	.44	.50	.03												
3. Age	31.71	5.84	-.10	-.19**											
4.Tenure	4.13	3.70	-.05	-.19**	.35**										
5. Relationship length	18.24	17.93	-.03	-.13*	.33**	.37**									
6. Phase	.89	.31	-.05	-.02	-.07	.02	.08								
7. Mentoring type	.48	.50	-.06	.03	.09	.03	.07	-.04							
8. Supervisory mentor	.53	.50	.02	.02	-.02	-.04	.12*	.12*	.03						
9. Deep-level similarity (T1)	5.86	.86	-.02	.10	-.06	-.08	.05	.15**	.04	.01	(.83)	.26***	.46***	.40***	.32***
10. Experiential dissimilarity (T1)	6.13	.89	.02	.08	-.04	-.11*	.01	.07	.04	-.04	.23**	(.91)	.35***	.24***	.08
11. Self-expansion (T2)	3.54	.83	.10	.00	-.08	.00	.11	.14*	-.01	-.01	.39**	.33**	(.96)	.76***	.54***
12. Relationship commitment (T2)	5.63	1.04	.07	.06	.05	.09	.20**	.21**	.07	-.02	.32**	.24**	.66**	(.88)	.60***
13. Career self-efficacy (T2)	5.76	.93	.09	-.06	-.00	.07	.08	.21**	-.06	-.03	.29**	.09	.50**	.53**	(.95)

Note. $N = 304$. Reliability information appears on the diagonal where appropriate. Correlations among latent factors are above the diagonal. Race coded as 0 = white, 1= non-white. Gender coded as 0 = male, 1 = non-male (combined women and non-binary). Tenure coded as years in current job. Relationship length coded in months. Phase coded as 0 = initiation, 1 = cultivation. Mentoring type coded as 0 = formal, 1 = informal. Supervisory mentor coded as 0 = non-supervisory, 1 = supervisory. Deep-level similarity, experiential dissimilarity, relationship commitment, and career self-efficacy were coded on a 7-point Likert scale. Self-expansion was coded on a 5-point Likert scale. * $p < .05$. ** $p < .01$. ***$p < .001$.

Table 4

Means, Standard Deviations, and Correlations for Informal and Formal Protégés Separately

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	*M*	*SD*
1. Race	.37	.48	-	.01	-.15	-.03	.01	-.03	.04	-.01	.02	.08	.00	.03	.43	.5
2. Gender	.46	.5	.05	-	-.22**	-.27**	-.10	-.07	.11	.13	.03	.02	0.08	.01	.42	.5
3. Age	32.2	6.05	-.03	-.17*	-	.33**	.32**	-.03	.04	.03	.01	.04	0.07	.11	31.2	5.61
4.Tenure	4.26	4.12	-.06	-.1	.36**	-	.44**	.11	-.01	-.07	-.05	.06	0.1	.18*	4.02	3.28
5. Relationship length	19.5	18.4	-.05	-.16	.32**	.31**	-	.05	.22**	.11	-.04	.16*	.16*	.16*	17.1	17.4
6. Phase	.88	.32	-.08	.03	-.10	-.04	.11	-	.12	.15	.07	.19*	.18*	.31**	.91	.29
7. Supervisory status	.55	.5	.00	-.08	-.10	-.07	.02	.12	-	.04	-.02	-.01	.06	.01	.51	.5
8. Deep-level similarity (T1)	5.89	.82	-.03	.06	-.16	-.09	-.03	.15	-0.02	-	.23**	.42**	.35**	.25**	5.82	.89
9. Experiential dissimilarity (T1)	6.17	.85	.03	.14	-.11	-.18*	.06	.08	-.06	.23**	-	.25**	.18*	.09	6.1	.92
10. Self-expansion (T2)	3.53	.78	.13	-.02	-.21*	-.05	.05	.09	-.02	.35**	.44**	-	.72**	.57**	3.54	.88
11. Relationship commitment (T2)	5.7	.94	.17*	.02	.01	.07	.24**	.25**	-.12	.28**	.32**	.58**	-	.62**	5.57	1.13
11. Career self-efficacy (T2)	5.7	.91	.16	-.13	-.12	-.01	-.01	.10	-.08	.34**	.10	.42**	.43**	-	5.81	.94

Note. N = 304. Informal protégé (n = 145) correlations are below the diagonal and formal protégé (n = 159) correlations are above the diagonal. *M* and *SD* on the left-hand side are for informal protégés, and the right-hand side are for formal protégés. Race coded as 0 = white, 1= non-white. Gender coded as 0 = male, 1 = non-male (women and non-binary). Tenure coded as years in current job. Relationship length coded in months. Phase coded as 0 = initiation, 1 = cultivation. Supervisory mentor coded as 0 = non-supervisory, 1 = supervisory. Deep-level similarity, experiential dissimilarity, relationship commitment, and career self-efficacy were coded on a 7-point Likert scale. Self-expansion was coded on a 5-point Likert scale. * $p < .05$. ** $p < .01$. ***$p < .001$.

Table 5

Confirmatory Factor Analysis Model Fit Comparisons for Self-Expansion, Relationship Commitment, and Career Self-Efficacy

Model	χ^2	*df*	CFI	TLI	RMSEA	SRMR	$\Delta\chi^2$	Δdf
Model 1 (3-factor solution)	1080.74	374	0.91	0.90	0.08	0.05	-	-
Model 2a (EXP & RC, CSE)	1833.94	376	0.82	0.80	0.11	0.07	753.2***	2
Model 2b (EXP & CSE, RC)	2571.90	376	0.72	0.70	0.14	0.12	1491.16***	2
Model 2c (RC & CSE, EXP)	2287.03	376	0.76	0.74	0.13	0.11	1206.28***	2
Model 3 (1-factor solution)	3216.21	377	0.64	0.62	0.16	0.12	2135.47***	3

Note. N = 304. EXP = self-expansion. RC = relationship commitment. CSE = career self-efficacy. Models 2a-2c compare all possible 2-factor solutions. $\Delta\chi^2$and Δdf are in comparison to Model 1. ***$p < .001$.

Table 6

Path Analysis Results

Predictors	Self-expansion			Career self-efficacy			Relationship commitment		
	B	*β*	*SE*	*B*	*β*	*SE*	B	*β*	*SE*
Intercept	3.52***	4.30	.04	3.66***	3.95	.21	2.72***	2.63	.21
Experiential dissimilarity (X)	.25***	.28	.05	-.09	-.09	.06	.03	.02	.05
Deep-level similarity (M)	.33***	.34	.05	-	-	-	-	-	-
X * M	.10	.09	.06	-	-	-	-	-	-
Self-expansion	-	-	-	.59***	.53	.06	.82***	.65	.06
R^2	.20			.26			.43		

Note. $N = 304$. *$p < .05$. **$p < .01$. ***$p < .001$. B = unstandardized coefficients. β = standardized coefficients. *SE* = standard error.

Table 7

Indirect Effects and Conditional Indirect Effects with Deep-Level Similarity as the Moderator

Effect	Effect size	Bootstrapped *SE*	Boostrapped 95% CI
Exp diss → Self-exp → CSE[2]			
Indirect effect	.15	.04	[.08, .25]
Total effect	.06	.06	[-.05, .18]
Index of moderated mediation[2]	0.06	0.05	[-.02, .16]
Lower deep-level sim	.10	.06	[-.01, .22]
Higher deep-level sim	.20	.06	[.10, .33]
Difference	.10	.08	[-.04, .27]
Exp diss → Self-exp → RC[1]			
Indirect effect	.21	.06	[.11, .33]
Total effect	.24	.07	[.11, .37]
Index of moderated mediation[1]	0.08	0.06	[-.03, .21]
Lower deep-level sim	.14	.08	[-.01, .30]
Higher deep-level sim	.28	.07	[.15, .44]
Difference	.14	.11	[-.06, .37]

Note. N = 304. Exp diss = experiential dissimilarity. Self-exp = self-expansion. RC = relationship commitment. CSE = career self-efficacy. Lower levels of the moderator are at one *SD* below its mean and higher levels of the moderator are at one *SD* above its mean.

Table 8

Path Coefficients for Informal Protégés for Exploratory Analysis

Predictors	Self-Expansion			Career Self-Efficacy			Relationship Commitment		
	B	*β*	*SE*	*B*	*β*	*SE*	B	*β*	*SE*
Intercept	3.51***	4.52	.06	3.8***	4.16	.35	3.38***	3.61	.32
Experiential dissimilarity	0.38**	0.34	.07	-.10	-.11	.09	.09	.08	0.08
Deep-level similarity	0.26***	0.25	.07	-	-	-	-	-	-
X * M	0.11	0.09	0.09	-	-	-	-	-	-
Self-expansion	-	-	-	0.54***	0.46	.10	0.66***	0.55	.09
R^2		0.26			0.18			0.34	

Note. N = 304. There were n = 159 formal protégés and n = 145 informal protégés. *p < .05. **p <.01. ***p < .001. B = unstandardized coefficients. β = standardized coefficients. *SE* = standard error.

Table 9

Path Coefficients for Formal Protégés for Exploratory Analysis

Predictors	Self-Expansion			Career Self-Efficacy			Relationship Commitment		
	B	*β*	*SE*	*B*	*β*	*SE*	B	*β*	*SE*
Intercept	3.55***	4.05	.06	3.58***	3.82	.26	2.27***	2.02	.27
Experiential dissimilarity	0.16*	0.17	.07	-0.07	-0.06	0.07	0.00	0.00	0.07
Deep-level similarity	0.38***	0.39	.07	-	-	-	-	-	-
X * M	0.10	0.10	0.08	-	-	-	-	-	-
Self-expansion	-	-	-	0.63***	0.59	.07	0.93***	0.72	.07
R^2		0.21			0.33			0.52	

Table 10

Means, Standard Deviations, and Correlations for Supervisory vs. Non-Supervisory Mentoring

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12
1. Race	.38	.49	-	.02	-.09	-.03	.02	.07	-.08	-.07	.01	.17*	.14	.06
2. Gender	.43	.5	.03	-	-.21**	-.15	-.13	-.11	-.05	.10	-.01	-.04	-.01	-.09
3. Age	31.9	5.9	-.08	-.18*	-	.33**	.36**	-.03	.01	-.03	-.01	-.01	.08	.08
4.Tenure	4.32	3.77	-.06	-.24**	.37**	-	.46**	.04	.00	-.06	-.09	.03	.12	.15
5. Relationship length	15.7	16.7	-.05	-.14	.28**	.30**	-	.01	-.04	.02	.01	.19*	.26**	.18*
6. Phase	.86	.35	-.18*	.06	-.05	.03	.17*	-	-.03	.16*	.03	.22**	.26**	.28**
7. Mentoring type	.45	.5	-.04	.14	.15	.07	.16	-.04	-	.00	.02	-.02	-.03	-.10
8. Deep-level similarity (T1)	5.83	.94	.01	.11	-.09	-.1	.05	.15	.05	-	.17*	.39**	.30**	.34**
9. Experiential dissimilarity (T1)	6.16	.92	.03	.17*	-.09	-.14	0	.13	.06	.29**	-	.32**	.29**	.10
10. Self-expansion (T2)	3.55	.86	.04	.07	-.16	-.03	.03	.09	-.01	.41**	.36**	-	.65**	.55**
11. Relationship commitment (T2)	5.66	1.07	.02	.17*	-.02	.06	.15	.21*	.14	.37**	.21*	.66**	-	.60**
12. Career self-efficacy (T2)	5.79	.96	.14	-.01	-.11	-.01	-.03	.17*	-.01	.25**	.08	.45**	.46**	-

Note. $N = 299$. Supervisory mentoring ($n = 158$) correlations are above the diagonal and non-supervisory mentoring ($n = 141$) correlations are below the diagonal. Race coded as 0 = white, 1= non-white. Gender coded as 0 = male, 1 = non-male (women and non-binary). Tenure coded as years in current job. Relationship length coded in months. Phase coded as 0 = initiation, 1 = cultivation. Mentoring type coded as 0 = formal, 1 = informal. Deep-level similarity, experiential dissimilarity, relationship commitment, and career self-efficacy were coded on a 7-point Likert scale. Self-expansion was coded on a 5-point Likert scale. * $p < .05$. ** $p < .01$. ***$p < .001$.

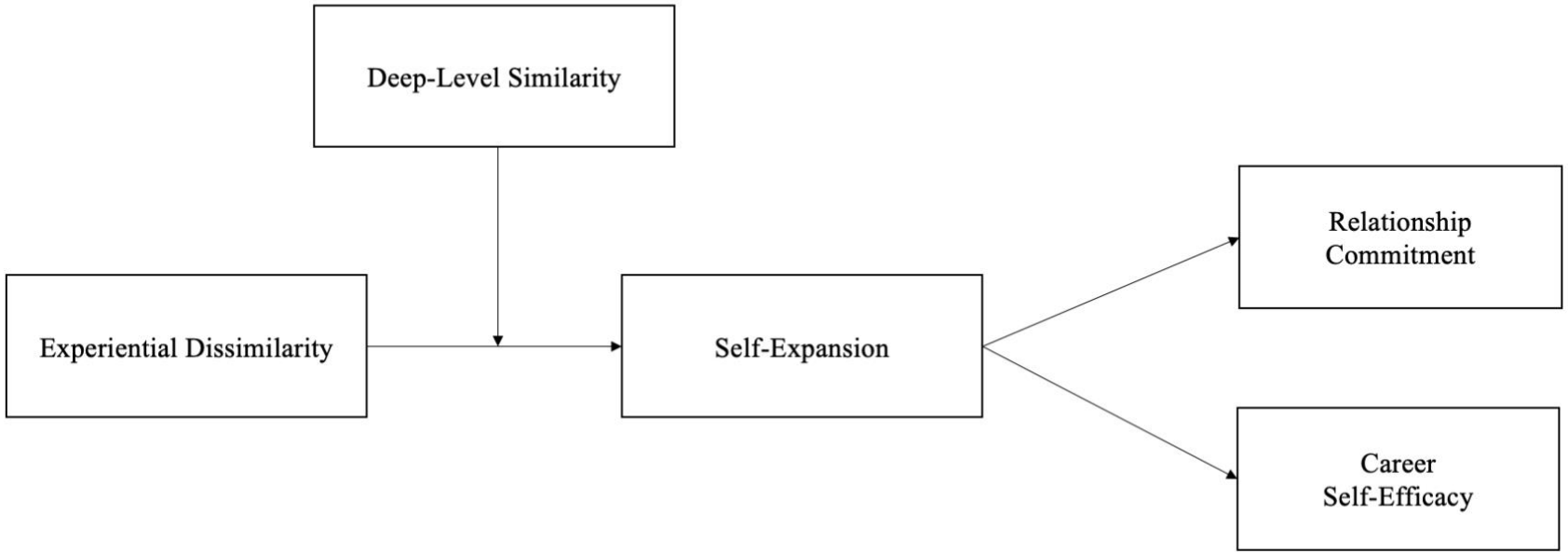
Table 11

Characteristics of Formal Mentoring Programs

Variable	%
Input into matching	
No input at all	27.67
Very little input	15.72
Some input	25.16
A lot of input	10.69
I selected my mentor	20.75
Mentoring training	
None at all	15.09
Very little	23.90
Some	36.48
A lot	19.50
A great deal	5.03
Mentoring social events	
No	55.06
Yes	44.94
Mentoring contract	
No	79.25
Yes	20.75
Guidance provided by organization	
None at all	7.55
Very little	21.38
Some	37.11
A lot	23.90
A great deal	10.06

Note. $n = 159$.

Figure 1
Hypothesized Model



Appendix A

Analytic Code

```
##Data cleaning##
################Creating scales################
data$screener_sup <- ifelse(data$screener_sup == "Yes", 1,
                            ifelse(data$screener_sup == "No", 0, NA))

sim_current_columns <- c("simavb_t1_1","simavb_t1_2","simavb_t1_3")
data$sim_avb_t1_avg <- rowMeans(data[, sim_current_columns], na.rm = TRUE)
describe(data$sim_avb_t1_avg)
hist(data$sim_avb_t1_avg)
diss_current_columns <- c("diss_ksa_t1_1","diss_ksa_t1_2","diss_ksa_t1_3")
data$diss_ksa_t1_avg<- rowMeans(data[, diss_current_columns], na.rm = TRUE)
describe(data$diss_ksa_t1_avg)

selfexp_t2 <- c("selfexp_t2_1", "selfexp_t2_2", "selfexp_t2_3", "selfexp_t2_4", "selfexp_t2_5",
"selfexp_t2_6",
                "selfexp_t2_7", "selfexp_t2_8", "selfexp_t2_9", "selfexp_t2_10", "selfexp_t2_11",
"selfexp_t2_12",
                "selfexp_t2_13", "selfexp_t2_14")
data$selfexp_t2_AVG <- rowMeans(data[, selfexp_t2], na.rm = TRUE)
describe(data$selfexp_t2_AVG)

#First reverse code commit_t2_4 which is on a 7-pt scale
data$commit_t2_4R<-8-data$commit_t2_4
commit_t2 <- c("commit_t2_1", "commit_t2_2", "commit_t2_3", "commit_t2_4R",
"commit_t2_5", "commit_t2_6", "commit_t2_7")
data$commit_t2_AVG <- rowMeans(data[, commit_t2], na.rm = TRUE)
hist(data$commit_t2_AVG)
careerse_t2 <- c("careerse_t2_1", "careerse_t2_2", "careerse_t2_3", "careerse_t2_4",
"careerse_t2_5",
                 "careerse_t2_6", "careerse_t2_7", "careerse_t2_8")
data$careerse_t2_AVG <- rowMeans(data[, careerse_t2], na.rm = TRUE)
describe(data$careerse_t2_AVG)

#demographic recoding: 0=white, 1=non-whiwhitete; 0=male, 1=non-male (recode nonbinary)
#Recoding such that white=0, non-white =1
data$race_recode <- ifelse(data$p_race == 7, 0, 1)
#Recoding such that 0=male, 1=nonmale
data$gender_recode <- ifelse(data$p_gender == 1, 0, 1)
#Converting job tenure to numerical value, such that starting in 2024=0, starting in 2023=1, and
so on
data$tenure_recode <- 2024-data$p_year_job
```

```
#Recoding such that initiation phase =0, cultivation phase = 1; informal mentor=1, formal mentor=0
data$phase_recode <- ifelse(grepl("Initiation Phase: My mentor and I are just starting a relationship. It is not clear if the relationship will evolve into a true mentorship.", data$phase), 0,
                            ifelse(grepl("Cultivation Phase: My mentor is directly involved in my career development. I am learning a great deal from my mentor and they are taking active steps toward helping my career.", data$phase), 1, NA))
data$type_mentor_recode <- ifelse(grepl("informal", data$mentor_type.y), 1,
                                  ifelse(grepl("formal", data$mentor_type.y), 0, NA))

################################CFAs################################
library(lavaan)

#I want to compare a 3 factor to a 1 factor and all possible 2 factor models (outcomes only)

#Outcomes: 3 factor fit
outcomes_3f<-
'selfexp=~selfexp_t2_1+selfexp_t2_2+selfexp_t2_3+selfexp_t2_4+selfexp_t2_5+selfexp_t2_6+selfexp_t2_7+
selfexp_t2_8+selfexp_t2_9+selfexp_t2_10+selfexp_t2_11+selfexp_t2_12+selfexp_t2_13+selfexp_t2_14
commit=~commit_t2_1+commit_t2_2+commit_t2_3+commit_t2_4R+commit_t2_5+commit_t2_6+commit_t2_7
careerse=~careerse_t2_1+careerse_t2_2+careerse_t2_3+careerse_t2_4+careerse_t2_5+careerse_t2_6+careerse_t2_7+careerse_t2_8'
outcomes_3f_fit<-cfa(outcomes_3f, data=data, missing = "FIML")
summary(outcomes_3f_fit, fit.measures=T, standardized=T)

#all possible 2 factor
#Factor 1: self expansion and commitment, Factor 2: career self-efficacy
outcomes_2f_1<-
'exp_commit=~selfexp_t2_1+selfexp_t2_2+selfexp_t2_3+selfexp_t2_4+selfexp_t2_5+selfexp_t2_6+selfexp_t2_7+
selfexp_t2_8+selfexp_t2_9+selfexp_t2_10+selfexp_t2_11+selfexp_t2_12+selfexp_t2_13+selfexp_t2_14+commit_t2_1+commit_t2_2+commit_t2_3+commit_t2_4R+commit_t2_5+commit_t2_6+commit_t2_7
careerse=~careerse_t2_1+careerse_t2_2+careerse_t2_3+careerse_t2_4+careerse_t2_5+careerse_t2_6+careerse_t2_7+careerse_t2_8'
outcomes_2f_1_fit<-cfa(outcomes_2f_1, data=data, missing = "FIML")
summary(outcomes_2f_1_fit, fit.measures=T, standardized=T)

#Compare 2 factor (v1) with 3 factor model
anova(outcomes_3f_fit, outcomes_2f_1_fit)
#Significant chi sq indicates that going from 3 factor to 2 factor (v1) introduces significant misfit

#Factor 1: self expansion and career self-efficacy, Factor 2: commitment
```

```
outcomes_2f_2<-
'exp_carSE=~selfexp_t2_1+selfexp_t2_2+selfexp_t2_3+selfexp_t2_4+selfexp_t2_5+selfexp_t2_
6+selfexp_t2_7+
selfexp_t2_8+selfexp_t2_9+selfexp_t2_10+selfexp_t2_11+selfexp_t2_12+selfexp_t2_13+selfex
p_t2_14+careerse_t2_1+careerse_t2_2+
careerse_t2_3+careerse_t2_4+careerse_t2_5+careerse_t2_6+careerse_t2_7+careerse_t2_8
commit=~commit_t2_1+commit_t2_2+commit_t2_3+commit_t2_4R+commit_t2_5+commit_t2
_6+commit_t2_7'
outcomes_2f_2_fit<-cfa(outcomes_2f_2, data=data, missing = "FIML")
summary(outcomes_2f_2_fit, fit.measures=T, standardized=T)

#Compare 2 factor (v2) with 3 factor model
anova(outcomes_3f_fit, outcomes_2f_2_fit)
#Significant chi sq indicates that going from 3 factor to 2 factor (v2) introduces significant misfit

#Factor 1: career self-efficacy and commitment, Factor 2: self expansion
outcomes_2f_3<-
'carSE_commit=~commit_t2_1+commit_t2_2+commit_t2_3+commit_t2_4R+commit_t2_5+co
mmit_t2_6+commit_t2_7+
careerse_t2_1+careerse_t2_2+careerse_t2_3+careerse_t2_4+careerse_t2_5+careerse_t2_6+caree
rse_t2_7+careerse_t2_8
selfexp=~selfexp_t2_1+selfexp_t2_2+selfexp_t2_3+selfexp_t2_4+selfexp_t2_5+selfexp_t2_6+s
elfexp_t2_7+
selfexp_t2_8+selfexp_t2_9+selfexp_t2_10+selfexp_t2_11+selfexp_t2_12+selfexp_t2_13+selfex
p_t2_14'
outcomes_2f_3_fit<-cfa(outcomes_2f_3, data=data, missing = "FIML")
summary(outcomes_2f_3_fit, fit.measures=T, standardized=T)

#Compare 2 factor (v3) with 3 factor model
anova(outcomes_3f_fit, outcomes_2f_3_fit)
#Significant chi sq indicates that going from 3 factor to 2 factor (v3) introduces significant misfit

#Outcomes: 1 factor fit
outcomes_1f<-
'outcomes=~selfexp_t2_1+selfexp_t2_2+selfexp_t2_3+selfexp_t2_4+selfexp_t2_5+selfexp_t2_6
+selfexp_t2_7+
selfexp_t2_8+selfexp_t2_9+selfexp_t2_10+selfexp_t2_11+selfexp_t2_12+selfexp_t2_13+selfex
p_t2_14+commit_t2_1+commit_t2_2+commit_t2_3+commit_t2_4R+commit_t2_5+commit_t2_
6+commit_t2_7
+careerse_t2_1+careerse_t2_2+careerse_t2_3+careerse_t2_4+careerse_t2_5+careerse_t2_6+care
erse_t2_7+careerse_t2_8'
outcomes_1f_fit<-cfa(outcomes_1f, data=data, missing = "FIML")
summary(outcomes_1f_fit, fit.measures=T, standardized=T)

#Compare 3 factor with 1 factor model
anova(outcomes_3f_fit, outcomes_1f_fit)
```

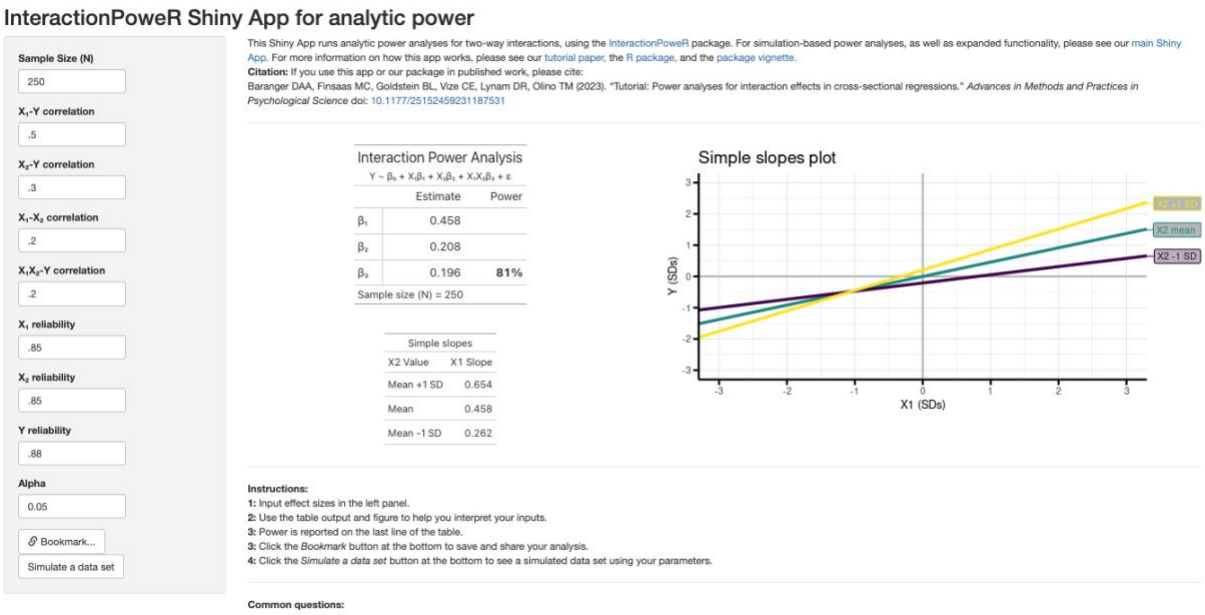
```
#Significant chi sq indicates that going from 3 factor to 1 factor introduces significant misfit

##############################SEM Model#################################
library(lavaan)
#First test the fit of the measurement model

#One CFA that includes all variables in model
all_variables<- 'similarity=~simavb_t1_1+simavb_t1_2+simavb_t1_3
dissimilarity=~diss_ksa_t1_1+diss_ksa_t1_2+diss_ksa_t1_3
selfexp=~selfexp_t2_1+selfexp_t2_2+selfexp_t2_3+selfexp_t2_4+selfexp_t2_5+selfexp_t2_6+s
elfexp_t2_7+
selfexp_t2_8+selfexp_t2_9+selfexp_t2_10+selfexp_t2_11+selfexp_t2_12+selfexp_t2_13+selfex
p_t2_14
commit=~commit_t2_1+commit_t2_2+commit_t2_3+commit_t2_4R+commit_t2_5+commit_t2
_6+commit_t2_7
careerse=~careerse_t2_1+careerse_t2_2+careerse_t2_3+careerse_t2_4+careerse_t2_5+careerse_
t2_6+careerse_t2_7+careerse_t2_8'
allvariables_fit<-cfa(all_variables, data=data, missing = "FIML")
summary(allvariables_fit, fit.measures=T, standardized=T,modindices = TRUE)
modindices(allvariables_fit, sort. = TRUE, minimum.value = 0)

# Center the independent variables for moderation
data$diss_c<- scale(data$diss_ksa_t1_avg, center = TRUE, scale = FALSE)
data$sim_c <- scale(data$sim_avb_t1_avg, center = TRUE, scale = FALSE)
data$simXdiss <- data$sim_c * data$diss_c
describe(data$simXdiss)

model_primary <- "
 #Regressions
  selfexp_t2_AVG ~ a1*diss_c + a2*sim_c + a3*simXdiss
    commit_t2_AVG ~ b1*selfexp_t2_AVG + c1*diss_c
    careerse_t2_AVG ~ b2*selfexp_t2_AVG + c2*diss_c

#Index of Moderated Mediation
  Index_commit := a3*b1
  Index_career := a3*b2
# Conditional indirect effects at high (+.86) and low (-.86) levels of the moderator
  ind_commit_high := (a1 + a3*0.86)*b1
  ind_commit_low := (a1 + a3*(-0.86))*b1
  ind_diff_commit := ind_commit_high - ind_commit_low
  ind_career_high := (a1 + a3*0.86)*b2
  ind_career_low := (a1 + a3*(-0.86))*b2
  ind_diff_career := ind_career_high - ind_career_low
#Indirect effects
ind_commit := a1*b1
ind_career := a1*b2
```

```
#Get total effects
total_commit := c1 + (a1 * b1)
total_careerse := c2 + (a1 * b2)
#Making sure covariance between interaction term and components is 0
diss_c ~~ 0*simXdiss
sim_c ~~ 0*simXdiss
    "
fit_primary <- sem(model_primary, data= data, missing = "FIML")
summary(fit_primary, fit.measures = TRUE, standardized=TRUE, rsquare = TRUE)
boot1 <- lavaan::sem(model = model_primary,
                     data = data,
                     se = "bootstrap",
                     bootstrap = 10000,
                     fixed.x = FALSE)
summary(boot1, fit.measures = TRUE, standardized = TRUE, ci = TRUE, rsquare = TRUE,

###Latent SEM for supplementary analysis####
library(semTools)
library(modsem)

#####Modsem #####

# Define the model including the interaction
latent_model2 <- "
  # Measurement model
  sim =~ simavb_t1_1 + simavb_t1_2 + simavb_t1_3
  diss =~ diss_ksa_t1_1 + diss_ksa_t1_2 + diss_ksa_t1_3
  selfexp =~ selfexp_t1_1 + selfexp_t1_2 + selfexp_t1_3 + selfexp_t1_4 + selfexp_t1_5 +
selfexp_t1_6 + selfexp_t1_7 + selfexp_t1_8 + selfexp_t1_9 + selfexp_t1_10 + selfexp_t1_11 +
selfexp_t1_12 + selfexp_t1_13 + selfexp_t1_14
  commit =~ commit_t1_1 + commit_t1_2 + commit_t1_3 + commit_t1_5 + commit_t1_6 +
commit_t1_7
  carse =~ careerse_t1_1 + careerse_t1_2 + careerse_t1_3 + careerse_t1_4 + careerse_t1_5 +
careerse_t1_6 + careerse_t1_7 + careerse_t1_8

  # Structural model with interaction
  selfexp ~ a1*diss + a2*sim + a3*sim:diss
  commit ~ b1*selfexp + c1*diss
  carse ~ b2*selfexp + c2*diss


  # Moderated Mediation Index
  Index_commit := a3 * b1
  Index_career := a3 * b2"

latent_m2_fit <- modsem(latent_model2, data, meanstructure=T)
```

```
summary(latent_m2_fit, fit.measures = TRUE, standardized = TRUE, ci = TRUE)


##########Exploratory analyses: informal vs. formal###############
# Define the multi-group model with labeled paths
model_diff <- "
# Regressions for both groups with labeled paths using c()
selfexp_t2_AVG ~ c(a1_1, a1_2)*diss_c + c(a2_1, a2_2)*sim_c
commit_t2_AVG ~ c(b1_1, b1_2)*selfexp_t2_AVG + diss_c
careerse_t2_AVG ~ c(b2_1, b2_2)*selfexp_t2_AVG + diss_c

# Constraints to compute the differences between informal (group 1) and formal (group 2)
groups
diff_beta1 := a1_1 - a1_2   # Dissimilarity -> Self-expansion
diff_beta2 := a2_1 - a2_2   # Similarity -> Self-expansion
diff_beta3 := b1_1 - b1_2   # Self-expansion -> Commitment
diff_beta4 := b2_1 - b2_2   # Self-expansion -> Career self-efficacy
"

fit_diff <- sem(model_diff, data = data, group = "type_mentor_recode", missing = "FIML")
summary(fit_diff, fit.measures = TRUE, standardized=TRUE, rsquare=T)
fit_boot_diff <- sem(model_diff,
                     data = data,
                     group = "type_mentor_recode",   # This specifies multi-group analysis
                     se = "bootstrap",
                     bootstrap = 10000)  # Set bootstrap iterations
summary(fit_boot_diff, fit.measures = TRUE, standardized = TRUE, ci = TRUE)
```

Appendix B

A Priori Power Analysis



Appendix C

Measures

Screener

Mentoring is a developmental relationship in which a more advanced or experienced person (the mentor) agrees to provide career support to a less advanced or experienced person (the protégé).

Do you currently have a work- or career-related mentor? Yes/No

If yes:

Do you currently have more than one mentor? Yes/No (distractor)

Some mentoring relationships are developed formally, whereas others are developed informally. **Formal** mentorships are initiated by a third party (e.g., your organization, professional association). You may have been matched with a mentor or simply provided formal opportunities to develop the relationship. In contrast, **informal** mentorships develop spontaneously, without any formal assistance or third party matching.

Do you currently have a ***formal*** mentor?

Yes
No, I only have informal mentor(s)
Unsure
*Must select formal or informal

How long have you been in your current mentoring relationship?

Less than 1 month, 1 month, 2 months, …, 12 months, more than 12 months

How many times have you met with your current mentor?

Never, 1 time, 2 times, 3 times, 4 times, 5 times, …., More than 10 times

Is your mentor also your supervisor? Yes/No

Please select which phase of mentoring *best* reflects your current mentoring relationship. (from Chao et al., 1997)

Initiation phase: my mentor and I are just starting a relationship. It is not clear if the relationship will evolve into a true mentorship.

Cultivation phase: my mentor is directly involved in my career development. I am learning a great deal from my mentor and they are taking active steps toward helping my career

Separation phase: I have already learned a great deal from my mentor and am more focused on establishing my own reputation in the organization rather than being associated with my mentor

Redefinition phase: The relationship has matured to be better described as one between two colleagues rather than senior mentor/junior protégé. Most of the help, guidance, and learning has already occurred; I've established my own reputation and we are good friends.

[Must select either Initiation or Cultivation]

Time 1 and Time 2 Surveys

Background Questions (T1)

How well do you feel like you know your mentor? (*Not at all, Slightly, Somewhat, Well, Very Well)*

How frequently do you interact with your mentor? (*1= Almost never, 2= Very infrequently, 3=Somewhat frequently, 4=Frequently, 5=Very frequently)*

What is the gender of **your mentor**? *Man, woman, nonbinary, other (please describe)*

What is the race of **your mentor**? *American Indian or Alaska Native, Asian, Black/African-American, Hispanic, Latinx, Native Hawaiian or Other Pacific Islander, White, Other (please specify), Unsure (select all that apply)*

What is **your mentor's** age?

18-24
25-34
35-44
45-54
55-64
65-74
75+

What is your age? (open ended)

How do you identify? *Man, woman, nonbinary, other (please describe), prefer not to answer*

What is your racial/ethnic identity? *American Indian or Alaska Native, Asian, Black/African-American, Hispanic, Latinx, Native Hawaiian or Other Pacific Islander, White, Other (please specify) (select all that apply)*

Organizational tenure (drop down years 1-50+)

In which year did you begin your current job?

Job title (open ended)

What is the highest level of education you have completed?

Less than high school
High school diploma or equivalent
Associate's degree or equivalent
Bachelor's degree or equivalent
Master's degree or equivalent
Professional degree (MD, JD, etc.)
Doctorate degree or higher
Other (please specify):

Approximately how many hours do you work each week? (Open ended, numerical)

What is your current salary?

- Less than $25,000
- $25,000-$49,999
- $50,000-$74,999
- $75,000-$99,999
- $100,000-$149,999
- $150,000 or more

Job level:

- Entry-level
- Mid-level
- Manager
- Senior-level

Industry:

- Accommodation or food services
- Admin, support, waste management or remediation services
- Arts, entertainment or recreation
- Construction
- Educational services
- Finance or insurance
- Forestry, fishing, hunting or agriculture support
- Health care or social assistance
- Information
- Management of companies or enterprises
- Manufacturing; Mining
- Professional, scientific or technical services
- Real estate or rental and leasing
- Retail trade
- Transportation or warehousing
- Utilities
- Wholesale trade
- Other, please describe

Study Variables (T1 and T2)

Please answer these questions thinking about how you feel about [mentor name] currently.

Similarity in Values, Attitudes, Beliefs (Lankau et al., 2005)

Original Items	**Adaptations**
How similar are you to your mentor in terms of:	Indicate how much you agree with the following statements.

Personality Interests Work Values Outlook on organizational issues Problem-solving approach Personal values *1 = not at all similar, 5 = very similar*	My mentor and I are similar in terms of our values. My mentor and I are similar in terms of our attitudes. My mentor and I are similar in terms of our beliefs. *1= strongly disagree, 7 = strongly agree*

Dissimilarity in Knowledge, Skills, Abilities (Lankau et al., 2005)

Original Items	**Adaptations**
How similar are you to your mentor in terms of: Personality Interests Work Values Outlook on organizational issues Problem-solving approach Personal values *1 = not at all similar, 5 = very similar*	Indicate how much you agree with the following statements. My mentor has important knowledge that I don't have. My mentor has important skills that I don't have. My mentor has important abilities that I don't have. *1= strongly disagree, 7 = strongly agree*

Self-Expansion (Lewandowski & Aron, 2002)

Original Items	**Adaptations**
1. How much does being with your partner result in you having new experiences?	1. How much does interacting with your mentor result in you having new experiences?
2. *When you are with your partner, do you feel a greater awareness of things because of him or her?	2. When you interact with your mentor, do you feel a greater awareness of things because of them?
3. How much does your partner increase your ability to accomplish new things?	3. How much does your mentor increase your ability to accomplish new things?
4. How much does being with your partner make you more appealing to potential future mates?	4. How much does your relationship with your mentor enhance others' perceptions of you?
5. How much does your partner help to expand your sense of the kind of person you are?	5. How much does your mentor help to expand your sense of the kind of person you are?
6. * How much do you see your partner as a way to expand your own capabilities?	6. How much do you see your mentor as a way to expand your own capabilities?
7. Do you often learn new things about your partner?	7. Do you often learn new things from your mentor?
8. How much does your partner provide a source of exciting experiences?	8. How much is your mentor a source of interesting experiences?

9. How much do your partner's strengths as a person (skills, abilities, etc.) compensate for some of your own weaknesses as a person?	9. How much do your mentor's strengths as a person (skills, abilities, etc.) compensate for some of your own weaknesses as a person?
10. * How much do you feel that you have a larger perspective on things because of your partner?	10. How much do you feel that you have a larger perspective on things because of your mentor?
11. How much has being with your partner resulted in your learning new things?	11. How much has interacting with your mentor resulted in your learning new things?
12. How much has knowing your partner made you a better person?	12. How much has knowing your mentor made you a better person?
13. How much does being with your partner increase the respect other people have for you?	13. How much does interacting with your mentor increase the respect other people have for you?
14. * How much does your partner increase your knowledge?	14. How much does your mentor increase your knowledge?

1= to no extent, 2 = to a small extent, 3 = to a moderate extent, 4 = to a great extent, 5 = to a very great extent

Relationship Commitment (Rusbult et al., 1998)

Original Items	**Adaptations**
1. I want our relationship to last for a very long time.	1. I want the relationship with my mentor to last for a long time.
2. I am committed to maintaining my relationship with my partner.	2. I am committed to making the relationship with my mentor work.
3. I would not feel very upset if our relationship were to end in the near future. (R)	3. I would feel upset if the relationship with my mentor ended prematurely.
4. It is likely that I will date someone other than my partner within the next year.	4. It is likely that I will seek out a new mentor before our relationship is scheduled to end. (R)
5. I feel very attached to our relationship- very strongly linked to my partner.	5. I feel attached to our relationship - strongly linked to my mentor.
6. I want our relationship to last forever.	6. I want the relationship with my mentor to last.
7. I am oriented toward the long-term future of my relationship (for	7. I am oriented toward the long-term future of my mentoring relationship (for example, I imagine staying in

example, I imagine being with my partner several years from now). *0 = do not agree at all, 4 = agree somewhat, 8 = agree completely*	touch with my mentor several years from now). *1=strongly disagree, 7=strongly agree*

Career self-efficacy (Biemann et al., 2015)

Original Items	**Adaptations**
I will be able to achieve most of the career goals that I have set for myself.	I will be able to achieve most of the career goals that I have set for myself.
When facing difficult assignments in my career, I am certain that I will accomplish them.	When facing difficult tasks in my career, I am certain that I will accomplish them.
Regarding my career, I think that I can obtain outcomes that are important to me.	Regarding my career, I think that I can obtain outcomes that are important to me.
I believe I can succeed at almost any career endeavor to which I set my mind.	I believe I can succeed at almost any career endeavor to which I set my mind.
I will be able to successfully overcome many challenges in my career.	I will be able to successfully overcome many challenges in my career.
I am confident that I can perform effectively on many different assignments in my career.	I am confident that I can perform effectively on many different career-related tasks
Compared to other people, I can do most tasks in my job very well.	Compared to other people, I can handle most career-related situations very well
Even when job demands are tough, I can perform quite well.	Even when things are tough in my career, I can perform quite well

1=strongly disagree, 7=strongly agree