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COGNITIVE STYLE SIMILARITY: IS YOUR PERCEPTION YOUR REALITY?

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Approval Page

This is to certify that the thesis prepared by Danielle Douglas entitled 'Cognitive Style Similarity: Is Your Perception Your Reality?', has been approved by the thesis committee as satisfactorily completing the thesis requirements for the degree of Masters of Arts.

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Abstract

COGNITIVE STYLE SIMILARITY: IS YOUR PERCEPTION YOUR REALITY?

Danielle Douglas

Existing literature on cognitive style similarity has shown its importance in workplace relationships. But there is inconsistency in results across these studies as to whether similarity is beneficial or a hindrance. The present study addressed this and aimed to explore whether the inconsistency is because perceptions of the similarity are just as important as the actual similarity. More specifically, it explored whether actual cognitive style similarity or subordinate-perceived cognitive style similarity in supervisor-subordinate dyads are related, and further, which best predicts subordinate outcomes. Results indicated that actual similarity and subordinate-perceived similarity are not significantly related, and that subordinate-perceive similarity significantly predicts interpersonal/social outcomes (empowerment, LMX quality, and relationship) and actual cognitive style similarity significantly predicts task-related outcomes (task conflict). Additionally, results indicated similarity is more advantageous than dissimilarity. Suggestions for future research as well as implications for theory and practice are discussed.

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Cognitive Style Similarity: Is Your Perception Your Reality?

Cognitive style refers to the way someone thinks, processes, and organizes information. It is a relatively stable trait that has wide-ranging implications such as decision-making, risk taking, and time spent on actions and activities. While studied in several domains, cognitive style has been intensively studied in the organizational context. Existing research supports a link between cognitive style at work and myriad workplace outcomes, activities, and behaviors (e.g., Aggarwal & Woolley, 2013; Allinson, Armstrong, & Hayes, 2001; Barkhi, 2002; Cheng, Luckett, & Schulz, 2003; Cools, Van den Broeck, & Bouckenooghe, 2009; Priola, Smith, & Armstrong, 2004; Sagiv, Arieli, Goldenberg, & Goldschmidt, 2010; Swanson & O'Saben, 1993).

Some cognitive style research examines how an individual's cognitive style affects workplace behaviors and outcomes. For example, intuitive individuals are more creative than systematic individuals (Sagiv, Arieli, Godenberg, & Goldschmidt, 2010), business owners are more entrepreneurial than analytic individuals (Armstrong & Hird, 2009), and intuitive/thinking types craft higher quality decisions than sensing/feeling types (Hough & ogilvie, 2005). But, there is also a body of literature that explores its effect on interpersonal relationships in the workplace. Particularly studied are the effects of members of the relationship having similar versus differing cognitive styles. This is referred to as cognitive style similarity (also diversity, congruence, and matching), and has been found to have a significant effect on numerous organizational areas such as the decision-making process (West & Dellana, 2009), knowledge transfer (Lin, Kao, & Chang, 2010), strategic focus and task execution (Aggarwal & Woolly, 2013), and

project performance (Visser, Faems, Visscher, & Weerd-Nederhof, 2014), change

initiation (Emsley & Chung, 2010). As opposed to surface-level or demographic

similarities such as age, gender, and race, cognitive style similarity is what is referred to

as a deep-level similarity. Examining cognitive style follows a recent shift towards

focusing on deep-level characteristics in light of research demonstrating they have a

longer-lasting impact on work outcomes than do surface-level differences (e.g., Bauer &

Green, 1996; Kacmar, Harris, Carlson, & Zivnuska, 2009).

Cognitive style similarity has been studied in various relationship types (e.g.,

teams), but the one of interest to present study is the supervisor-subordinate dyad (e.g.

Armstrong, Allinson, & Hayes, 1997). Extant research has revealed that cognitive style

similarity in supervisor-subordinate dyads plays a major role in influencing employee

outcomes (e.g. Allinson et al., 2001). -According to the widely accepted similarity-

attraction paradigm, one would expect that supervisor-subordinate similarity in cognitive

style would be advantageous, however, results are inconsistent across studies. For

example, whereas Suazo et al. (2008) found that cognitive style similarity is more

favorable in that it leads to less psychological contract breach, Allinson et al. (2008)

found that it is dissimilarity that is more favorable in that it leads to more liking and

respect of the supervisor. Despite this conflict, there are no studies that attempt to

resolve this issue or examine potential explanations as to why the discrepancy exists.

The present study addresses this inconsistency by proposing and examining an

additional approach to assess cognitive style similarity – perceptions of cognitive style

similarity. Research on perceptual similarity indicates that it may have a different effect

on outcomes than actual similarity because, "similarity must be perceived before it can show effects" (Wolfram & Mohr, 2008, p. 262). To accomplish this goal, the present study will examine how *actual* cognitive style similarity and subordinate *perceptions* of cognitive style similarity in supervisor-subordinate dyads affect subordinate outcomes. Specifically, it will investigate these effects on subordinate empowerment, Leader-member exchange (LMX), conflict, and turnover intention.

Theoretical Background and Literature Review

Cognitive Style

Cognitive style refers to how people organize and process information and experience (Messick, 1976), and has similarly been defined as "individual differences in how we perceive, think, solve problems, learn, and relate to others" (Witkin, Moore, Goodenough, & Cox, 1977, p. 5). The definition of cognitive style that is used in the present study is a synthesis of these definitions and several others, and defines cognitive style as:

> C*onsistent individual differences in the way a person perceives and acquires*
> *information, processes and organizes that information, and thinks, solves*
> *problems, and relates to others.*

Cognitive style research has been conducted for decades, but one of the first studies to systematically examine it was conducted by Witkin et al. (1954). This research led to the first popular dimension of cognitive style: field-dependent – field-independent. Using a perceptual task this study concluded that a field-dependent person is one who relies on external referents to guide information processing, whereas a field-independent person relies more on internal referents. In addition to providing a more concrete definition, this research also identified some important properties about cognitive style such as its stability over time and across tasks. This was a catalyst for cognitive style research that subsequently spurred the development of several more dimensions and measures upon which cognitive style was defined. To date there have been several reviews in which researchers have compiled the extant cognitive style measures. In one

comprehensive review Kozhevnikov (2007) integrated over five decades of research resulting in the identification of over 40 theoretical and operational dimensions of cognitive style. More recently Cools, Armstrong, and Verbrigghe (2014) used more stringent criteria and identified 32 dimensions.

The number of different dimensions has led cognitive style to be labeled a confusing and complex construct. This resulted in research that has attempted to evaluate overlaps in measures. Many (e.g., Messick, 1976) argue that the measures are all simply "different conceptions of a superordinate dimension" commonly called 'analytic' and 'intuitive' (Allinson & Hayes, 1996). Analytic individuals use reasoning, logic, and prefer a step-by-step-approach, whereas intuitive individuals observe an overall situation and make judgment based on feeling.   Additionally, the analytic-intuitive dimension has been paralleled to the original field-dependent – field-independent dimension (e.g., Riding & Sadler-Smith, 1992). Accordingly, the present study employs the analytic-intuitive dimension.

Cognitive Style in the Workplace

Cognitive style is of significance in the workplace because it directly impacts those behaviors – e.g. decision-making – that define the essence of what working is. Its influence and value to organizations can be underscored by the large amount of research regarding it as a significant factor in determining individual and organizational behavior (Armstrong, Cools, & Sadler-Smith, 2012). Emphasizing this, cognitive style has been linked to a wide range of workplace functions including personnel selection, task design,

team composition, communication, training and development, and conflict management (Hayes & Allinson, 1994).

In the workplace, having an analytic cognitive style translates to being more compliant, preferring a more structured approach to decision-making and problem solving, using systematic methods of investigation, and being more comfortable with ideas that require a step-by-step solution (Allinson et al., 2001; Allinson & Hayes, 1996). Alternatively, those with an intuitive cognitive style in the workplace prefer to look at the big picture, base decisions on their feelings, are nonconformist, prefer a more rapid and open-ended approach to decision-making and problem solving, use random methods to explore, and are more comfortable with ideas that favor a holistic approach (Allinson et al., 2001; Allinson & Hayes, 1996).

Some of the distinctions between these types of employees can be further illustrated by the contrast in action after being assigned a work task. An analytical employee is more apt to return to his or her desk to process the information and generate a plan of action. Furthermore, once the plan is generated, he or she is more likely to be very methodical. On the other hand, an intuitive employee is more likely return to his or her desk and begin to work immediately. Intuitive employees' work is likely to involve more risk taking and take a relatively shorter time to complete as compared to their analytic counterparts.

Cognitive Style Similarity in Supervisor-Subordinate Dyads

Even more specific than an individual's cognitive style affecting different outcomes, literature also examined how it affects workplace relationships. The inclusion

of 'how people relate to others' in Witkin et al's (1977) early definition of cognitive style reinforces the idea that its effects extend to interpersonal relationships (Armstong et al., 1997). Cognitive style can impact each type of workplace relationship –dyads (e.g. Allinson et al., 2001) and teams (e.g. Basadur & Head, 2001), but the one of interest to the present study is the supervisor-subordinate relationship.

Research has demonstrated that in supervisor-subordinate dyads, similarity on the basis of certain personal characteristics can impact numerous aspects of the workplace (e.g. Oren, Tziner, Sharoni, Amor, & Alon, 2012). The nature of the supervisor-subordinate relationship is susceptible to the effects of cognitive style for two main reasons. First, cognitive style is defined by elements that parallel any dyadic workplace relationship. For example, cognitive style pertains to how people process information. This affects decision-making, and in an organizational environment, most decisions affect more than just the decision-maker, meaning that a decision will impact those that someone works with. Additionally, cognitive style affects problem solving. This is usually a joint effort in today's work world, which can cause someone's preference for how they approach solving a problem to affect all members involved. For example, it can affect how much time someone spends on a project, which could be longer or shorter than someone else prefers.

Second, the hierarchical nature of supervisor-subordinate dyads introduces additional elements. Empirical research has demonstrated that cognitive style has implications in numerous vertical dyadic relationships such as student-superior (e.g., Armstrong et al., 1997), mentor-protégé (e.g., Lin et al., 2010), and manager-subordinate

(Allinson et al., 2001) dyads. It affects these relationships through its impact on areas such as communication effectiveness and mutual liking (Triandis, 1960). Because of this, research into cognitive style similarity in the supervisor-subordinate dyad may help to improve the relationship and outcomes for the individuals involved.

Inconsistency in the Literature. While the evidence that cognitive style similarity has an effect on dyadic relationships is strongly supported, there are discrepancies as to what *type* of effect it has. Some research points to similarity having a positive effect, such as more effective knowledge transfer (Lin et al., 2010) and higher quality leader-subordinate relationships (Suazo et al., 2008), whereas other research has concluded that it is in fact dissimilarity that has positive effects such as superior decision performance (Cheng et al., 2003).

Those viewing similarity as having a positive effect, draw from the Similarity-Attraction Paradigm, theorizing that when people have a similar cognitive style they have positive interactions and are more attracted to each other – ultimately working together better. Following this explanation, when employees are not similar in cognitive style, it may handicap a working relationship due to different interests, values, and problem-solving techniques (as cited in Allinson et al., 2001). Alternatively, those viewing similarity as having a negative effect, draw from Winch's complementary needs theory, which contends that an advantageous relationship may be the result of "reciprocal need gratification" (Allinson et al., 2001, p. 213). As it pertains to cognitive style, this means that an analytic employee may have a better relationship with an intuitive employee (and vice versa) because having different interests, values, and problem-solving techniques

results in two people who bring different skills to the table allowing them to balance each other out and have a variety of resources available. Thus, there are explanations for both perspectives.

Potential Role of Perceptions of Similarity

The inconsistent results from the cognitive style similarity literature point to the possibility of other variables, mediating or moderating relationships, or other circumstances causing the discrepant findings. Accordingly, the present study seeks to explore a possible solution. A potential explanation can be understood with one of the distinctions that has been made in the similarity literature – reality versus perceptions. In existing research, cognitive style similarity in dyads is defined as the difference in the cognitive style scores between the members (i.e. actual cognitive style similarity), but theoretical and empirical findings suggest that perceptions of similarity – how similar someone believes they are to another – may also have explanatory power in understanding the effects of cognitive style similarity on dyadic functioning. Perceptions may play a role in the link between cognitive style similarity and workplace outcomes because perceived similarity depends on the context of a situation to make the similarity salient or not (Dose, 1999). For example, Harrison and Klein (2007) acknowledged the strong effect the social environment has on perceptions of similarity. Given the above information, the present study examines perceptions of cognitive style similarity as a potential explanation for the current inconsistency in the dyadic cognitive style similarity literature. To accomplish this, first the present study will examine the question of whether actual and perceptions of cognitive style similarity are in alignment. Then, it

will go a step further to determine which of the two types of similarity is a better predictor of subordinate outcomes.

Is there alignment between actual and subordinate-perceived cognitive style similarity? Existing research on the impact of perceptions as it pertains to other personality areas, coupled with the concept of cognitive style, demonstrates that is possible for perceptions of cognitive style similarity to affect outcomes differently than actual cognitive style similarity. Strauss, Barrick, and Connerley (2001) explain that personality can mean either a person's public self from the observer's perspective or what is actually inside a person to explain why there may be a lack of a significant relationship between actual and perceived personality similarity. Because of the two meanings of personality, raters may judge similarity of others on those public behaviors, whereas they rate their own inner nature. As it pertains to the supervisor-subordinate relationship, subordinates may not have accurate perceptions about their supervisor (Dose, 1999). Reasoning for how perceptions may also affect cognitive style similarity in the workplace, can be illustrated by a supervisor whose actions may not be consistent with his or her actual cognitive style for a reason such as the particular job role or task demands. For example, a supervisor could be extremely detail-oriented (which would be revealed on a measure of actual cognitive style), but his or her actions may not indicate it because of an overly taxing workload. In this scenario the supervisor's actual cognitive style does not matter as much as an antecedent to subordinate outcomes because what the subordinate is feeling and experiencing is based on what they perceive, which would be a supervisor who is not detail-oriented. It may seem as though subordinates would

eventually grasp an accurate understanding of their supervisor's cognitive style, but there are several reasons that this might now hold true. For example, there is an increasing emphasis on good leadership, and supervisors may purposefully adjust their style to accommodate their subordinates. Additionally, people change jobs more frequently now, meaning that they may not have the necessary amount of time to know their supervisor's true cognitive style. If a difference between actual and perceptions is found, then it can shed some light on to why there has been conflicting results in the literature

Conversely, there is research that suggests that actuality and perceptions may indeed be congruent. There has been research that has found that when something is a visible trait, such as extroversion (Watson, Hubbard, & Wiese, 2000), actuality and perceptions are significantly related. This is interesting because some facets of cognitive style in the supervisor-subordinate relationship are visible (e.g., being methodical about approaching a task), whereas others are not (e.g., processing information).

Does actual or perceptions of cognitive style similarity best predict organizational outcomes? Whether actual and perceived cognitive style similarity align or not, it is important to further explore whether actual or perceived cognitive style similarity best predicts workplace outcomes, and there is research supporting both positions. In terms of actual cognitive style similarity explaining outcomes in supervisor-subordinate dyads, there has been some evidence that actual similarity causes perceived similarity (Curry & Kenny, 1974). In this situation, actual similarity is the ultimate predictor, thus the more important type of similarity.

In terms of perceptions of cognitive style similarity explaining outcomes in supervisor-subordinate dyads, in a meta-analysis on actual vs. perceptions of similarity, Montoya, Horton, and Kirchner (2008) found that perceptions of similarity have a stronger effect on attraction than actual similarity because both causal directions may be in effect (i.e. perceived similarity leading to attraction and attraction leading to perceived similarity). There have been several studies that support this paradigm in supervisor-subordinate dyads (Turban & Jones, 1988; Strauss et al., 2001) and other relationships such as romantic relationships (Tidwell, Eastwick, & Finkel, 2013; Acitelli, Douvan, & Veroff, 1993).

Present Study

The above questions are addressed by examining the effects of actual and subordinate-perceived cognitive style similarity with their supervisor on subordinate outcomes. While cognitive style and cognitive style similarity have traditionally been researched in the workplace by examining its effects on performance, decision-making, and more result-based outcomes, it is also important to examine its impact on the individual members of the group or dyad. For example, cognitive style similarity may affect work performance in one direction and employee satisfaction in the opposite direction. Meaning, cognitive style similarity could enhance performance, but decrease satisfaction, or conversely it could decrease performance, but make employees more satisfied. To address this, the present study will evaluate a range of workplace outcomes – empowerment, LMX quality, conflict, and turnover intention.

Empowerment. Empowerment has historically been described from two perspectives – managerial empowerment and psychological empowerment. Managerial empowerment is the act and process of empowering employees and psychological empowerment is the experience of it. Psychological empowerment (the one the present study focuses on) can be described as the belief in one's ability to perform or as high task motivation (Conger & Kanungo, 1988; Thomas & Velthouse, 1990). Spreitzer (1995) described psychological empowerment in the workplace as a motivational construct manifested in four cognitions: meaning (the fit between the job task and one's own beliefs), competence (the belief in one's ability to perform a job well), self-determination (feeling control over one's work), and impact (how much an employee can influence workplace outcomes).

Cognitive style similarity is expected to relate to empowerment for several reasons. One reason is empowerment's empirical link to autonomy (Liu, Zhang, Wang, & Lee, 2011). Because someone's cognitive style is their opinion of the 'right way' to approach tasks, if a subordinate's and his or her supervisor's cognitive styles are similar, it can be conceived that the supervisor gives the subordinate more autonomy due to their analogous 'right way' and this autonomy may lead to more empowerment. Furthermore, the effects of cognitive style similarity in this particular relationship may be especially strong on subordinate empowerment because supervisors are important to the subordinate's motivational development (Chen & Kanfer, 2006), and motivation increases as a result of autonomy (Gagne´ & Deci, 2005).

Leader-member exchange quality. Leader-member exchange is a leadership theory that describes the relationship between supervisor and subordinate. It contends that each relationship between leaders (supervisors) and members (subordinates) is separate and distinct and should be viewed as so (Graen & Schiemann, 1978). The theory characterizes a high-quality relationship by high trust, respect, and obligation. Cognitive style is expected to relate to LMX for a few reasons. First, there are well-established antecedents of LMX in the literature. For example, there is evidence that deep-level similarity, such as in conscientiousness (Deluga, 1994) and work values (Dose, 1999), leads to higher quality LMX, and cognitive style is a deep-level characteristic. This relationship is also expected because cognitive style has been shown to relate to numerous aspects of the leader-subordinate relationship such as psychological contract breach (Suazo et al., 2008) and LMX specifically (Allinson et al., 2001). This is because the behaviors that cognitive style affects – i.e. risk taking and time spent making a decision – permeate and influence the resultant interpersonal relationship.

Conflict. Conflict occurs between employees when there is a disagreement about how to approach a task. Because someone's cognitive style impacts the way in which they go about doing it, it is expected that if supervisors and subordinates have differing ways, then they will disagree and conflict will ensue. More importantly, cognitive similarity in individuals is negatively associated with conflict (Ismail, Richard, & Taylor, 2012). Group conflict research has categorized conflict into three different types: task, relationship, and process (Behfar, Mannix, Peterson, & Trochim, 2010).

Task conflict is discussing and debating opinions about the content of work. It refers to conflict derived from differences in opinion about the means, skills, and strategies necessary to reach objectives (Doucet, Poitras, & Chenevert, 2008), which relates to the problem solving aspect of cognitive style. Cognitive style's effect on how employees approach tasks can be inferred from its effect on risk taking, how long someone spends analyzing a situation, etc. Viewing tasks differently makes cognitive style similarity more apparent, and these experiences of difference would be the source of contention leading to discrepancy and conflict. Further driving home the point, research has shown that cognitive dissimilarity had a positive relationship with task conflict (Olson, Parayitam, & Bao, 2007).

Process conflict is broken up into two sub-types. One involves issues with how to spend time and resources (logistical) and the other, how to coordinate contribution (contribution). Cognitive style similarity should be related to the logistical type of process conflict. One aspect of logistical conflict is disagreement about how to use time and resources, and since part of cognitive style is how much time people spend on tasks, if a subordinate differs from the supervisor in terms of much time he or she wants to allocate to particular tasks, conflict may result.

Relationship conflict is interpersonal animosity and tension. Relationship conflict should be related to cognitive style similarity because both types of process conflict can turn in to relationship conflict "because of the disruptive potential of behaviors that generate process conflict" (Behfar et al., 2010). Additionally, a meta-analysis by De Dreu and Weingart (2003) found a .54 correlation between task and relationship conflict.

Turnover intention. Gauging an employee's intent to leave an organization is important because turnover intention is a strong predictor of actual turnover behavior (Vanderpool & Way, 2013). Chan (1996) found that a mismatch between cognitive style and task demands leads to turnover. In the supervisor-subordinate dyad, the supervisor is the agent of task demands, so if the subordinate perceives a mismatch between his or her cognitive style and supervisor expectations, they will have a stronger propensity to want to leave. Additionally, cognitive style is highly correlated with communication because people with different cognitive styles have different preferences and strategies for communicating. For example research by Littlemore (2001) found that those with a more analytic style used descriptive-based communication and those with a more intuitive style used comparison-based communication when describing a vocabulary word. This is important because poor communication, especially in the supervisor-subordinate relationship leads to turnover intention (Scott et al., 1999). Further support is the Attraction-Selection-Attrition model (Schneider, 1987) which states that individuals that differ in certain areas will elect to leave an organization – i.e. turnover.

Overview

Cognitive style similarity has a significant impact on workplace relationships. Although research in this area is beneficial, one drawback is its lack of consistency regarding whether it has positive or negative effects. The present study aims to address this discrepancy. Specifically the present study will seek to answer the following research questions:

Research Question 1 (RQ1): *Is there alignment between actual and subordinate-perceived cognitive style similarity?*

Research Question 2 (RQ2): *Does actual or subordinate-perceived cognitive style similarity best predict organizational outcomes?*

Method

Participants

Participants were 114 individuals (59 supervisor-subordinate dyads). Subordinate members of the dyads were students in Towson University graduate classes or personal contacts who had at least one direct-report supervisor. Supervisors were the direct report supervisor of one of the subordinates. Each individual participant was a full-time or part-time working professional.

Procedure

Subordinates were recruited, and each subordinate engaged his or her immediate supervisor in order to determine if he or she was also willing to participate. Upon each member agreeing, the subordinate participant was emailed a message with instructions and a link to the online survey. The instructions included a 6-digit alphanumeric code. Next, subordinates received an email with instructions to directly forward the survey to their supervisor. This email included the same information as the first email and the same alphanumeric code in order to match data. Each survey consisted of a cover letter as informed consent on the first page, followed by the survey. Both surveys consisted of demographic and control measures (see Appendix), the CSI, and the PCSS (for the supervisor version it was reworded to reflect perceived cognitive style similarity with subordinate). The subordinate version additionally included the outcome measures.

Measures

   Cognitive Style.

   Cognitive style. Cognitive style was assessed using the Cognitive Style Index - CSI (Allinson & Hayes, 1996). This 38-item scale assesses the analytic-intuitive dimension of cognitive style (e.g. "Given enough time, I would consider every situation from all angles"). Items have a true-uncertain-false response mode, with scores of 2, 1, or 0 assigned respectively depending on the direction of the item. The theoretical maximum for scale is 76 and minimum is 0, with scores closer to the maximum representing people who are more analytic and scores closer to the minimum representing those who are more intuitive. Cronbach alpha of this scale ranged from .81 to .85.

   Perceived cognitive style similarity. Subordinate perceived cognitive style similarity with their supervisor was assessed using the 12-item Perceived Cognitive Style Similarity Scale (PCSS; Douglas & Mello, 2014). The items (e.g. "My supervisor and I are similar in our comfort with risk taking") were scored on a 5-point scale ranging from 1 (= very dissimilar) to 5 (= very similar).   Scores can range from 12-60 with higher scores indicating more perceived similarity. Cronbach alpha of this scale is .87.

   Actual cognitive style similarity. Supervisor-subordinate actual cognitive style similarity (CSI-A) was determined by calculating the absolute value of the difference score of the subordinate CSI and the supervisor CSI for each pair. Thus, smaller scores indicated more similarity.

Employee Outcomes.

Empowerment. Empowerment was assessed using the Psychological Empowerment in the Workplace Scale (Spreitzer, 1995). This 16-item scale (e.g. "I have significant autonomy in determining how I do my job") assesses empowerment based on four sub-dimensions: self-determination, competence, meaning, and impact, each of which has three items. The items were scored on a 7-point scale ranging from 1 (= very strongly disagree) to 7 (= very strongly agree). Cronbach alpha of this scale is .96.

Leader-member exchange quality. Leader-member exchange quality was assessed using a seven-item scale (e.g. "My supervisor understands my problems and needs") used by Liden, Wayne, and Stilwell (1993). Items were scored on a 5-point scale, with different response options for each question. Cronbach alpha of this scale is .92.

Conflict. Conflict between the subordinate and supervisor was assessed using the relationship conflict, task conflict, and logistical conflict subscales of the Process-coordination Conflict scale (Behfar et al., 2011). Each subscale consists of three items. For all three measures, the items (e.g. "How frequently do you and your supervisor disagree about the optimal amount of time to spend in a meeting") were scored on a 9-point scale ranging from 1 (= none/not at all) to 9 (= always/totally). Cronbach alpha ranged from .85 to .92.

Turnover Intention. Employee organizational turnover intention was assessed using the three-item scale (e.g. "I think a lot about leaving this organization") created by Mobley, Horner, and Hollingsworth (1978). Supervisor turnover intention will be

assessed using 3-items developed for this study by rewording the item stems of the item

from Mobley et al. (1978) to reference intent to leave the supervisor (e.g. "I think a lot

about having a different supervisor"). For both, items were scored on a 5-point scale

ranging from 1 (= strongly disagree) to 5 = (strongly agree). Cronbach alpha of this scale

is .95.

     Demographic and Control Variables. The demographic measures of age and

gender, and were assessed. Additionally, length of time in current job role, length of time

the subordinate has worked for the current supervisor was determined.

Results

Descriptive statistics and inter-correlations for all study variables are shown in Table 1. The internal reliability of each variable is shown on the diagonal. Reliability of each scale was assessed using Cronbach's alpha for internal consistency. Values ≥ .70 are considered acceptable for new scale development and research purposes (Nunnally & Bernstein, 1994). Reliability assessments indicate that all items for the study measures were acceptable with values ranging from .81 to .96.

Main Analyses

Research Question 1 explored whether there is alignment between actual and subordinate perceived cognitive style similarity. A Pearson product-moment correlation was run to determine the relationship between the two variables. Results indicated an insignificant correlation ($r = -.16$, $p = .22$)

Research Question 2 explored whether actual or subordinate perceived cognitive style similarity best predicted each of the outcomes (empowerment, LMX quality, conflict, and turnover intention). A series of simple linear regression analyses (one for each predictor with each outcome variable) were run to address this. Analysis of these data began with a screening of the variables to determine if they met the assumptions of the regression model. Data showed no violation, so it was used for further analysis. The results of linear regression analyses are in Table 2. To protect against Type 1 error, a Bonferroni correction was used by adjusting alpha levels to .008 (.05/6).

The first set of relationships investigated was perceived cognitive style similarity as a predictor of each of the subordinate outcomes. It was found that perceived cognitive

style significantly predicted empowerment with a significant regression model (F (1,58) = 11.69, p = .001) and an R^2 of .17. The R^2 indicated that perceived cognitive style similarity accounted for about 17% of the variance of empowerment. The coefficient indicated a significant positive relationship (β = .41). Overall this suggests that subordinates who perceived more cognitive style similarity with their supervisor felt more empowered.

Perceived cognitive style also significantly predicted LMX quality with a significant regression model (F (1,58) = 11.79, p = .001) and an R^2 of .17. The R^2 indicated that perceived cognitive style similarity accounted for about 17% of the variance of LMX quality. The coefficient indicated a significant positive relationship (β = .41). Overall this suggests that subordinates who perceived more cognitive style similarity with their supervisor had a higher quality relationship with their supervisor.

Perceived cognitive style also significantly predicted relationship conflict with a significant regression model (F (1,58) = 12.12, p = .001) and an R^2 of .18. The R^2 indicated that perceived cognitive style similarity accounted for about 18% of the variance of relationship conflict. The coefficient indicated a significant negative relationship (β = -.42). Overall this suggests that subordinates who perceived more cognitive style similarity with their supervisor had less conflict with their supervisor.

The simple linear regression analyses of perceived cognitive style similarity on the remaining outcomes indicated that perceived cognitive style similarity does not significantly predict task conflict (β = .06, p = .66), logistical conflict (β = -.27, p = .04), or turnover intention (β = -.01, p = .96).

The second set of relationships investigated was actual cognitive style similarity as a predictor of each of the subordinate outcomes. Results indicated that actual cognitive style similarity did not significantly predict empowerment (β = -.08, p = .57), LMX quality (β = -.09, p = .52), relationship conflict (β = .20, p = .13), task conflict (β = -.17, p = .19), logistical conflict (β = -.10, p = .45), or turnover intention (β = -.08, p = .54). None of the outcomes were significantly predicted by both actual and perceived cognitive style similarity, therefore there was no need for multiple regression and analysis stopped here.

Post-Hoc Analyses

In order to be more rigorous in analyses and assess the potential effect of control variables, a series of two-step hierarchical linear regressions was performed on the data (one for each predictor with each outcome variable for a total of 12). The control variables of subordinate age, subordinate gender, and length of time in relationship were entered in the first step, and perceived cognitive style similarity or actual cognitive style similarity was entered into the second step.

For the outcomes empowerment, LMX quality, relationship conflict, logistical conflict, and turnover intentions, results were the same as from the simple linear regression analyses. When controlling for subordinate age, subordinate gender, and length of time in relationship, only perceived cognitive style similarity significantly predicted empowerment (β = .39, p = .002), LMX quality (β = .39, p = .003), and relationship quality (β = -.43, p = .001). Additionally, neither perceived cognitive style

similarity nor actual cognitive style similarity predicted logistical conflict or turnover intention.

The one difference is regarding task conflict. As shown in Table 3 (Model 2), actual cognitive style similarity was significantly and negatively related to task conflict (β = -.33, p = .014), and accounted for an additional 9.6% of the variance in task conflict beyond the control variables. This indicates that when controlling for subordinate age, subordinate gender, and length of time of the relationship, subordinates who have actual cognitive style similarity with his/her supervisor have more task conflict.

Discussion

The purpose of the present study was to address an inconsistency in the cognitive style similarity literature. The inconsistency is whether cognitive style similarity is advantageous or disadvantageous, and this was addressed by examining the potential role of subordinate perceptions of the cognitive style similarity in supervisor-subordinate dyads. In all existing cognitive style similarity literature (to the knowledge of the researcher), it is actual cognitive style similarity that is being assessed. However, theory suggests that there may be differential effects for perceived similarity. Overall, the present study aimed to explore whether cognitive style similarity in supervisor-subordinate dyads affects subordinate outcomes differently depending on whether there is actual similarity or the subordinate only perceives the similarity.

To address this, the present study investigated whether there is alignment between subordinate-perceived cognitive style similarity and actual cognitive style similarity in supervisor-subordinate dyads, and furthermore, which best predicts subordinate outcomes. The outcomes that were examined are subordinate empowerment, LMX quality, conflict, and turnover intention. The research questions were explored using data obtained from working professionals. This perspective on cognitive style similarity has never been examined; therefore this was an exploratory study. Overall results indicated that actual and perceived cognitive style similarities are not in alignment, and that the better predictor is dependent upon the outcome. Perceived cognitive style similarity predicted empowerment, LMX quality, and relationship conflict, and actual cognitive

style similarity predicted task conflict. These results underscore several interesting ideas, which are further discussed below.

First, perceived cognitive style similarity and actual cognitive style similarity not being aligned is important. This difference provides preliminary insight as to why there have been inconsistent results across cognitive style similarity studies, and suggests that the similarities may measure separate constructs. It enhances the notion of the present study that the inconsistent results are due to another factor – i.e. lack of perceived similarity. Furthermore, this misalignment is supported by Montoya et al.'s (2008) meta-analytic research on actual and perceived similarity. Researchers examined three types of relationships: no interaction, short-term interaction, and existing relationships. They found that for existing relationships (which the supervisor-subordinate relationship is), only the effect of perceived similarity was significant.

Second, the results provide further insight into the difference between perceived and actual cognitive style similarity. The second research question explored which of the two similarities is the better predictor of subordinate outcomes, and found that neither is better, but that each predicts different types of outcomes. In order to understand what types of outcomes each type of similarity predicts, the common aspects of each group of outcomes can be assessed. Empowerment, LMX quality, and relationship conflict were predicted by perceived cognitive style similarity, and all of these outcomes are associated with interpersonal and social aspects of work. For example, empowerment occurs when there is a supportive environment (Olshfski & Cunnigham, 1998). LMX quality, by definition, refers to the supervisor-subordinate relationship and the interaction between

them, and is based on social exchange theory (Bauer & Green, 1996). Relationship

conflict is described as "negative social interactions, interpersonal incompatibility, and

negative affect" (Tepper, Moss, & Duffy, 2011). In contrast, task conflict was predicted

by actual cognitive style similarity. Task conflict differs from the other outcomes in that

it is directly about the work and assignments. This relationship may exist because tasks

are more concrete, and during a concrete task a lack of actual similarity will eventually

manifest itself, whereas for more abstract outcomes (i.e. interpersonal), there is no way

for actual style to manifest, so all that matters is what the subordinate perceives. For

example, for a task, there is something specific being done and perceiving similarity or

not will not make a difference. Conversely, if a subordinate feels empowered because

they perceive similarity, they will just feel empowered. Actual cognitive style similarity

will never manifest itself as a result of feeling empowered the way it can manifest itself

when completing tasks.

Perceived cognitive style similarity predicting social/interpersonal subordinate

outcomes is supported by findings that have showed that liking (an interpersonal

outcome) leads to similarity more than similarity leads to liking (e.g. Morry, 2005;

Sprecher, 2014), and that this only occurs for perceived similarity and not actual

similarity (Selfhout & Denissen, 2009). For the present study this suggests that perceived

cognitive style similarity may predict interpersonal outcomes because there is a

reciprocal link strengthening the relationship that is not existent for actual cognitive style

similarity and the outcomes. Additionally, the majority of the research that has found

that perceived, not actual, similarity predicts outcomes is assessing the relationship-based

outcomes in friendship (e.g. friendship intensity; Selfhout, 2009) or romantic

relationships (e.g. attraction; Tidwell, Eastwick, & Finkel, 2013), meaning that the

research is only assessing interpersonal/social outcomes.

The findings indicated that the more cognitive style similarity a subordinate

perceived, the more empowered the subordinate feels, the higher the quality of the

exchange relationship of the dyad, and the less relationship conflict exists for the dyad.

More surprisingly though, is that the more similar supervisor-subordinate dyads actually

are, the more task conflict exists. However, this finding supports research indicating that

task conflict is a good type of conflict (e.g. Jehn, 1997). At the root, it is considered

healthy because it allows the individuals to look deeper into issues, consider different

perspectives, and play thoughts off of each other, resulting in a superior synthesis of

ideas. For example, task conflict has been linked to more individual creativity

(Kurtzberg & Mueller, 2005), better group decisions (Boyle, Hanlon, & Russo, 2012),

and more innovative behaviors and knowledge sharing (Lu, Zhou, & Leung, 2011). As it

pertains to the present study, it stands to reason that when a supervisor-subordinate dyad

is actually similar in cognitive style, then they will be more comfortable raising differing

ideas, allowing for the healthy give and take. If they have dissimilar styles, a subordinate

may have had a bad experience in the past when trying to discuss differing ideas with

their supervisor, causing the subordinate to cease bringing up their opinion if it is

different. Subsequently, there will be no task conflict because there are no differing

perspectives to consider. The two remaining outcomes (logistical conflict and turnover

intention) were not predicted by perceived or actual cognitive style similarity.

Third, although perceived cognitive style similarity and actual cognitive style similarity were not aligned and did not predict the same outcomes, for the outcomes that were predicted by each, similarity led to favorable outcomes. This supports the similarity-attraction paradigm as it pertains to overall cognitive style similarity. It is noteworthy because the main inconsistency in cognitive style similarity research is regarding whether similarity is advantageous or not. Similarity being beneficial with its respective outcomes indicates that similarity is more advantageous than dissimilarity, and that some of the inconsistency could be because research has not distinguished between perceived and actual cognitive style similarity.

Implications and Contributions

It was noted by Armstrong (2004) that studies on cognitive style similarity have lumped together studies on interpersonal relationships, studies on performance outcomes, and a combination, which may cloud our understanding of the effects of cognitive style similarity. Although there is this known inconsistency in results across studies, there is a lack of research that seeks to further understand what the cause may be. Overall, the present study makes a theoretical contribution by being the first to empirically address the inconsistency in the cognitive style similarity literature regarding whether similarity or dissimilarity is more effective. It does this in two primary ways. First, it suggests that the inconsistent results may be because perceptions of cognitive style similarity are a factor. By measuring both actual and perceived cognitive similarity, the present study found that these two types of similarity predict different outcomes. This suggests that considering the type of outcome in conjunction with the effects of perceptions is

necessary when examining the effects of cognitive style similarity. This finding makes

an important contribution to the literature by taking a step towards better understanding

the complexities of cognitive style similarity. Results of the present study additionally

provide support for the emphasis on the 'relative' part of cognitive style being defined as

a "relatively stable trait" (e.g. Witkin et al., 1977, Kozhevnikov, 2007). The significant

relationships between perceptions of similarity and workplace outcomes demonstrates

that someone's cognitive style is not necessarily always projected accurately and that

there could be room for interpretation. This is because people can at times use cognitive

strategies that are contrary to their cognitive style in order to complete certain tasks (as

cited in Allinson et al., 2001).

Second, the results show that cognitive style similarity in supervisor-subordinate

relationships is more beneficial than cognitive style dissimilarity. When actual cognitive

style similarity predicted task-specific outcomes (task conflict) and perceived similarity

predicted social/interpersonal outcomes (empowerment, LMX quality, and relationship

conflict), similarity as opposed to dissimilarity resulted in more positive outcomes. This

supports the side of the argument that favors the similarity-attraction hypothesis as the

paradigm under which cognitive style similarity falls. This is an important addition to the

cognitive style literature because the central part of the inconsistency is whether cognitive

style similarity has a positive or negative effect on outcomes.

In addition to these two primary ways, this study also contributes to the literature

by comparing actual and perceived similarity in a work context. Although there are

several studies that have examined actual versus perceived similarity for other constructs

and in other contexts (e.g. personality similarity in friendship; Selfhout, 2009), relatively few have done this in the organizational setting, and none regarding cognitive style. Importantly, the results of the few studies that have compared both actual and perceived similarity in organizational settings (e.g. Strauss et al., 2001) are in agreement with the results of the present study, indicating that perceived similarity is either more, or just as, important as actual similarity.

In addition to theoretical contributions, this study provides some practical implications for organizational practice. With many companies using psychological testing for selection purposes, dyadic matching is becoming more popular. As a result, managers can identify characteristics of candidates prior to selection in order to determine if they would be a good fit for a particular supervisor or workgroup. One such characteristic is cognitive style, and the results of the present study indicate that managers should measure both actual and perceived cognitive style similarity in order to accurately assess the potential employee. Within this, there are different implications for internal and external selection. Internally, managers should seek to measure both actual cognitive style similarity, and also perceived cognitive style similarity of those employees that the person would be supervising. Externally, the findings of the present study suggest that a candidate with a dissimilar cognitive style than those that he or she would be supervising should not be ruled out. It would be more effective to determine how adaptable that candidate is or to be aware of the difference so that the organization can take the steps such as providing training on how to work with employees with different cognitive styles.

An additional use for the measurement of cognitive style in practice is to help determine the causes of ineffectiveness in an organization. If an organization solely measures actual cognitive style similarity while trying to address a social/interpersonal issue such a trust, it may seem that a supervisor and subordinate are not working well together because they have incongruent cognitive styles. As a result, the organization would be misdiagnosing the issue. Therefore, the results of this study suggest that organizations should be aware that actual or perceived cognitive style similarity should be used depending on the particular problem being addressed. Overall, this study shows that examining actual as well as perceived cognitive style similarity may provide a broader picture, and that the two should be used together and/or contingently upon the outcome of interest.

Limitations and Future Directions

While the present study has theoretical and practical implications, it is not without its limitations. One of the main limitations is sample size, as having only 59 dyads makes the data susceptible to Type 1 and Type 2 error rates. For future research it would be important to have a larger sample, however this sample is consistent with another study that examined cognitive style similarity in dyads (Armstrong, Allinson, & Hayes, 2002) that used 53 dyads. Additionally, one of the strengths of the study is that the sample consisted of participants who are working professionals in a variety of organizations and industries, as opposed to undergraduate college students. Though the sample is limited in number, the diversity of the sample (82% of participants were work full-time and 65% of participants worked in their current job role for over a year, and 47% of participants had

worked for their current supervisor for over a year) lessens the negative effect and enhances the generalizability of the results.

A further limitation of the study is the use of single-source data for the dependent variables. This can result in common-method bias, however for most of the variables used in the study, the respondent him/herself is the best source of information (Chan, 2009). For example, measuring empowerment required self-report, but in terms of LMX, future research could instead look at LMX agreement as is advised by Dulebohn, Bommer, Liden, Brouer, and Ferris (2012).

Another limitation is that subordinate members of the dyad were recruited as participants and then they engaged their supervisors. This could affect the generalizability of the results because subordinates may have only been comfortable engaging their supervisors if they already had a good relationship. I chose subordinate members to engage their supervisor because the only alternative would have been for the supervisor to be the initiator. If the was case, supervisors may have chosen their favorite subordinate or the subordinate they are most comfortable with, leading to skewed results. In the future, using an entire organization would increase the generalizability of the results so that the subordinate and/or supervisor being comfortable or not engaging their supervisor would not affect the results.

One last limitation is that the study was limited to subordinate perceptions. Operating from the standpoint that perceptions only affect the person whose perception it is (i.e. subordinate perceptions affecting subordinate outcomes), the present study purposefully limited the focus. However, taking into account supervisor perceptions of

similarity would provide additional information. For example, if supervisor and

subordinate perceptions differ it would provide additional support for perceived and

actual cognitive style not being the same. Additionally, future research could explore

whether subordinate perceptions or supervisor perceptions have a more significant effect

on subordinate outcomes. There also seems to be the potential for supervisor perceived

similarity to moderate the subordinate perceived similarity and subordinate outcome

relationship, such that the negative effect of subordinate perceived dissimilarity is

lessened if the supervisor also perceives the dissimilarity. This could occur because if the

supervisor perceives the dissimilarity, he or she could make adjustments accordingly.

In addition to the above recommendations, this research offers several additional

avenues for future research. First, it could expand this study framework to include other

subordinate outcome variables that may be predicted by actual and/or perceived cognitive

style similarity. Potential variables should include both social/interpersonal variables

(e.g. liking and organizational support) and task-related variables (e.g. performance and

satisfaction).

Second, future research should explore whether the results found in the present

study translate to the team level. Previous research has shown that cognitive style

similarity is just as important in teams (e.g. Mello & Delise, 2015). Additionally, the

research on cognitive style similarity in teams is comparable to the research on cognitive

style similarity in dyadic relationships in that there is inconsistency as to whether

similarity or dissimilarity is more desirable. For example, some research found that

homogeneous teams are better at forming a strategic consensus (Aggarwal & Woolley,

2013), while other research found that heterogeneous teams have less decision errors. Furthermore, Armstrong & Priola (2001) found that the most effective make up of a team depends on the work environment indicating that there is room for interpretation, such as perceptions. Replicating the present results in these other workplace relationships would provide further support for the importance of perceptions, and further substantiate the measurement of both actual and perceived cognitive similarity.

Finally, it would also be interesting to determine whether there are other factors that affect this relationship such as length of supervisor-subordinate relationship. On one hand it seems that the longer the relationship the more accurate perceptions may be (negating the importance of perceptions), but alternatively, perceptions could be more important with a longer relationship because the supervisor may learn how to adapt to the subordinate's style better.   Although length of the relationship was measured, the answer choices did not have enough variance. In the future the question about the length of the relationship should be open-ended to allow for it be measured as a continuous variable.

Conclusion

Employee cognitive style strongly permeates the workplace and the relationships that are a part of it. As a result, there has been an extensive amount of research in this area, with quite a bit concentrating on the effects of cognitive style similarity in these relationships. One relationship that is focused on is the supervisor-subordinate relationship, and although this research has contributed to the organizational literature, there still remains the question of whether similarity or dissimilarity in cognitive style results in more favorable outcomes. The present study explores the potential influence of subordinate

perceived cognitive similarity with their supervisor as a possible explanation for the

inconsistency in previous research. The present study suggests that perceived and actual

cognitive style similarities are distinct, and furthermore that the inconsistency may be

because each predicts separate types of outcomes. Whereas actual cognitive style

similarity was a better predictor of task-related outcomes, perceived cognitive style

similarity was a better predictor of social/interpersonal outcomes. The primary reason for

studying the effects of cognitive style similarity is to be able to inform organizations of

how to have the most effective workplace relationships based on cognitive style. This

study suggests that organizations may want to replace traditional cognitive style

similarity analysis with a combination of actual and perceived similarity, and as such, the

results take a step in the direction of better understanding cognitive style similarity in

supervisor-subordinate dyads.

Appendix A: Tables

Table 1

Descriptive statistics and inter-correlations

	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Subordinate CSI	50.39	11.55	(.81)									
2. Supervisor CSI	44.93	13.15	.19	(.85)								
3. CSI-A	12.88	10.56	.03	-.31*	-							
4. Subordinate PCSS	3.55	.60	-.12	-.06	-.16	(.87)						
5. Empowerment	5.34	1.13	.08	.05	-.08	.41**	(.96)					
6. LMX Quality	4.12	.74	.00	-.14	-.09	.41**	.27*	(.92)				
7. Relationship Conflict	1.68	1.04	-.06	.09	.20	-.42*	-.12	-.54**	(.92)			
8. Task Conflict	3.81	2.12	-.05	.24	-.17	.06	.11	.09	.30*	(.87)		
9. Logistical Conflict	1.80	1.20	-.04	.03	-.10	-.27*	-.12	-.36**	.72**	.44**	(.85)	
10. Turnover Intention	2.57	1.40	-.02	.13	-.08	.01	-.08	-.42**	.24	.17	.30*	(.95)

Note: Coefficient alpha for multi-item measures are listed on the diagonal in parentheses. * $p < .05$. ** $p < .01$.

Table 2

Results of RQ2 Linear Regression

Dependent Variable	PCSS		CSI-A	
	R²	β	R²	β
Empowerment	.17	.41**	.01	-.08
LMX	.17	.41**	.01	-.09
Relationship Conflict	.18	-.42**	.04	.20
Task Conflict	.00	.06	.03	-.17
Logistical Conflict	.07	-.27*	.01	-.10
Turnover Intention	.00	-.01	.01	-.08

Table 3

Post-hoc hierarchical regression of CSI-A on task conflict

	R	R²	Δ R²	B	SE	β	t
Step 1	.34	.12					
Subordinate Age				.05	.03	.21	1.61
Subordinate Gender				-2.40	1.07	-.29*	-2.23
Time in Relationship				-.03	.29	-.01	-.10
Step 2	.46	.21	.10*				
Subordinate Age				.07	.03	.27*	2.12
Subordinate Gender				-3.09	1.06	-.38**	-2.92
Time in Relationship				-.17	.28	-.08	-.63
CSI-A				-.07	.03	-.33*	-2.54

Note: * $p < .05$. ** $p < .01$.

Appendix B: Participant Demographic Questions

* Subordinate Only
** Supervisor Only

Demographic:
1. Age in years: _____

2. Gender:
    - Male
    - Female
    - Prefer not to answer (If other please specify) _____

3. In what nation were you born: _____

4. Race/Ethnicity:
    - American Indian or Alaska Native
    - Asian
    - Black or African American
    - Hispanic or Latino
    - Native Hawaiian or Other Pacific Islander
    - White
    - Other: _____

Work Life:
5. What is your current occupational status?
    - Full-time employment
    - Part-time employment
    - Not currently working, but have worked within the past year
    - Have not worked in over a year
    - Have never worked

6. Approximately how many hours a week do you work? _____

7. Approximately how many subordinates do you have? ** _____

8. What is the size of your organization? *
    - <100
    - 100 – 300
    - 300 – 500
    - >500

9. What industry do you work in? *

- Agriculture
- Energy and Utilities
- Manufacturing
- Services
- Construction
- Public Sector
- Communications
- Other

10. How long have you worked in your current job role?
- Less than 3 months
- 3-6 months
- 6 months – 1 year
- Over a year

11. How long have you worked under your current supervisor? *
- Less than 3 months
- 3-6 months
- 6 months – 1 year
- Over a year

12. How frequently do you have discussions with your supervisor about decisions that need to be made? *
- Hourly
- Several times a day
- Once a day
- Several times a week
- Once a week
- Less than once a week

13. How frequently do you have direct contact with your supervisor (electronically or face-to-face)? *
- Hourly
- Several times a day
- Once a day
- Several times a week
- Once a week
- Less than once a week

14. In what manner does your supervisor make most decisions? *
- They make the decision and inform others of it

- They gather information from their subordinates and then make the decision.
- They work together with their subordinates to reach a consensus.

Appendix C: IRB Approval Forms

TOWSON
UNIVERSITY

APPROVAL NUMBER: 15-A078

To: Danielle   Douglas
         12701 Turquoise Terrace
         Silver Spring   MD   20904

From: Institutional Review Board for the Proctection of Human
         Subjects Bethany Willis-Hepp, Member

Date: Tuesday, November 25, 2014

RE: Application for Approval of Research Involving the Use of
         Human Participants

Office of Sponsored Programs
& Research

Towson University
8000 York Road
Towson, MD 21252-0001

t. 410 704-2236
f. 410 704-4494

Thank you for submitting an Application for Approval of Research
Involving the Use of Human Participants to the Institutional Review
Board for the Protection of Human Participants (IRB) at Towson
University. The IRB hereby approves your proposal titled:

   Cognitive Style Similarity: Is Your Perception Really Your Reality

If you should encounter any new risks, reactions, or injuries while
conducting your research, please notify the IRB. Should your research
extend beyond one year in duration, or should there be substantive
changes in your research protocol, you will need to submit another
application for approval at that time.
We wish you every success in your research project. If you have any
questions, please call me at (410) 704-2236.

CC: Abby Mello
      File

TOWSON
UNIVERSITY

Date: Tuesday, November 25, 2014

NOTICE OF APPROVAL

TO: Danielle   Douglas   **DEPT:**   PSYC

PROJECT TITLE: *Cognitive Style Similarity: Is Your Perception Really Your Reality*

SPONSORING AGENCY: None

APPROVAL NUMBER: 15-A078

The Institutional Review Board for the Protection of Human Participants has approved the project described above. Approval was based on the descriptive material and procedures you submitted for review. Should any changes be made in your procedures, or if you should encounter any new risks, reactions, injuries, or deaths of persons as participants, you must notify the Board.

A consent form: [✓] is   [ ] is not   required of each participant

Assent: [ ] is   [✓] is not   required of each participant

This protocol was first approved on: 25-Nov-2014
This research will be reviewed every year from the date of first approval.

(for)

Bethany Willis-Hepp, Member
Towson University Institutional Review Board

Appendix D: Consent Form

TOWSON
UNIVERSITY

Dear Participant,

My name is Danielle Douglas and I am a graduate student in Towson University's Psychology Department in the experimental psychology program completing my master's research thesis. The purpose of this study is to examine the effects of cognitive style similarity in the supervisor-subordinate relationship.

If you choose to participate in my project, you will be asked to complete a survey that will take approximately 15 minutes (for subordinates) or 10 minutes (for supervisors) to complete. In order to participate in this study you must 18 years or older.

There are no known risks associated with participation in this study. If you should feel uncomfortable with a question, you can skip that question or withdraw from the study altogether. Participation in this study is voluntary. Your decision whether or not to participate in the project or to withdraw from the project at any time will in no way affect your course and/or employment status.

If you do choose to participate in this study, all information and data collected during the study period will be kept strictly confidential. You will be identified only through alphanumeric codes and upon completion the survey anything linking your name to the alphanumeric code will be destroyed. No publication or reports from this project will include identifying information on any participant. For this reason, I ask that you respond as honestly as possible.

If you have any questions about the study, you may contact me at (240) 305-4344, my faculty advisor, Dr. Abby Mello, at (401) 704-3364, or the Chairperson of Towson University's Institutional Review Board for the Protection of Human Participants, Dr. Debi Gartland, at (401) 704-2236, or at 8000 York Road, Towson, Maryland, 21252. A copy of the results of the survey, reported in aggregate form, will be available to you upon completion of my project, if you would like to see it.

By clicking to continue they survey you are acknowledging that you have read and understand the above information and are providing consent to participate in this study.

THIS PROJECT HAS BEEN REVIEWED BY THE INSTITUTIONAL REVIEW BOARD FOR THE PROTECTION OF HUMAN PARTICIPANTS AT TOWSON UNIVERSITY.

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Curriculum Vitae
Danielle Douglas

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EDUCATION

Towson University   Towson, MD

M.A. Experimental Psychology   Expected,
May 2015

- GPA: 3.88
- *Thesis (in progress)*: A comparison of actual and perceived cognitive style similarity in supervisor-subordinate dyads.
    - Advisor: Abby Mello, Ph.D.

Bryant University   Smithfield, RI
B.S. Business Management and Applied Psychology
May 2013

- GPA: 3.58
- Magna Cum Laude
- Part of management team that created a project plan, including a complete business plan, that was presented to the Mayor of Pawtucket, RI
- *Senior Directed Study in Psychology*: Self-deception and grit as predictors of workplace performance.
    - Advisor: Ron Deluga, Ed.D.

RESEARCH EXPERIENCE

Masters Thesis (in progress)
Comparing the workplace effects of actual cognitive style similarity and perceived cognitive style similarity to determine if perceptions may explain the inconsistent results of whether similarity in cognitive style in supervisor-subordinate dyads is advantageous or not.
> *Advisor: Abby Mello, Ph.D.*
> *Towson University*

First Year Masters Project
Developed and validated the Perceptions of Cognitive Style Similarity (PCSS) with supervisor scale. The psychometric properties of the PCSS were examined with exploratory and confirmatory factor analysis, reliability estimates, and construct and criterion-related validity.

These determined that it is a valid and reliable scale of self-reported cognitive style similarity with supervisor and further predictive value.

Advisor: Abby Mello, Ph.D.
Towson University

Senior Directed Study in Psychology
Examined the relationship between self-deception and grit as predictors of workplace performance.

Advisor: Ron Deluga, Ed.D
Bryant University

CONFERENCE PRESENTATIONS

Douglas, D. M. & Mello, A. L. (2015, April). A moderated mediation model linking subordinate similarity perceptions to outcomes. Poster presented at the 2015 annual meeting of the Society for Industrial and Organizational Psychology, Philadelphia, PA.

Douglas, D. M. & Mello, A. L. (2014, November). Cognitive style similarity in supervisor-subordinate dyads: Construct validation of a perceptual measure. Poster presented at the 2014 annual meeting of the Southern Management Association, Savannah, GA.

Douglas, D.M. & Deluga, R. (2014, July). The relationship among employee grit, self-deception, and performance. Poster presented at the 2014 annual conference for I-O Psychology and Organizational Behavior, Los Angeles, CA.

GRANTS, HONORS, AWARDS, & SCHOLARSHIPS

2014	SMA Pre-Doctoral Consortium and Travel Award ($500.00)
2013-present	Graduate Assistantship
2012-present	Psi Chi (The International Honor Society in Psychology)
2012-2013	Captain of Division I Women's Basketball Team
2009-2013	Dean's List (each undergraduate semester)

WORK EXPERIENCE

Graduate Assistant   *August 2013 to present*
Towson University, Center for Student Diversity
- Planned, coordinated, and ran several student programs and events.
- Responsible for marketing and outreach for all student events through social media as a way to increase student-programming attendance.
- Helped launch and run *TU Love Is* – a campaign to bring awareness to dating violence on Towson University's campus. My role includes keeping track of the peer mentoring program, doing the social media aspects of the campaign, and

running the tabling awareness.
- Keep track of inventory.

Summer Intern   *June to August 2014*
Lockheed Martin, Global Mobility Unit
- Led effort for UK immigration compliance audit to ensure the company was in compliance for international assignments, allowing hundreds of employees to continue working in the UK.
- Updated and modified employee international assignment expatriation orientation by standardizing it and dividing a large presentation into modules.
- Developed a survey/questionnaire to help determine the success of the newly implemented international work assignment localization process.

Summer Intern   *June to August 2012*
Department of Health and Human Services, HRSA, BCRS
- Researched and identified social media sources for the National Health Service Corp Virtual Job Fair.
- Provided a wide range of administrative support as organization underwent a major realignment including reorganizing the personnel filing system; consolidating performance accomplishments; sending, receiving and tracking UPS orders; and greeting and referring visitors.
- Converted position descriptions to an automated format.
- Created the format and prepared materials for staff customer service training and professional development.

Summer Intern   *June to August 2011*
American Psychological Association
- Supported the APA Summer Science Program by suggesting creative program activities, planning events and developing reference materials for program participants.
- Served as a guide for program events such as a trip to US congressional offices and Policy Day.
- Served as a representative for APA policy office during annual APA Convention, which had over 13,000 attendees. As a representative I answered questions on the role of the policy office and its programs.

Office Automation Clerk   *June to August 2010*
Department of Health and Human Services, Office of Human Resources
- Assisted in the day-to-day administrative operations of the office including filing, answering phones and greeting visitors.
- Maintained employee files for several program areas serviced by various HR staff members.
- Accurately categorized and prioritized employee files based on the employee and document type.
- Maintained a secure environment for documents that contained sensitive and personally identifiable information.

- Reduced a long-standing back-log of employment documents while working independently, which provided the HR staff with quick access to documents that were once not readily available.

Biomedical Research Intern   ***June to August 2007***
National Cancer Institute, NIH
- Worked alongside scientists in NCI's Laboratory of Molecular Biology to perform research and experiments in a laboratory setting.
- Conducted my own research project related to gene regulation and E-Coli.
- Presented my research findings at the NIH Summer Poster Day attended by scientists and other employees across NIH.

SKILLS

- Experienced with SPSS, SAS, R, and Tableau
- Experienced with Microsoft Office applications including Word, Excel, PowerPoint, Outlook, Access, Publisher, and Project
- Microsoft Office Specialist Certified
- Microsoft Project Certified
- Experienced with Adobe Acrobat and Photoshop

PROFESSIONAL AFFILIATIONS

- American Psychological Association (APA)
- Society for Industrial and Organizational Psychology (SIOP)
- Southern Management Association (SMA)

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