The Value of Value Congruence

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Research on value congruence has attempted to explain why value congruence leads to positive outcomes, but few of these explanations have been tested empirically. In this article, the authors develop and test a theoretical model that integrates 4 key explanations of value congruence effects, which are framed in terms of communication, predictability, interpersonal attraction, and trust. These constructs are used to explain the process by which value congruence relates to job satisfaction, organizational identification, and intent to stay in the organization, after taking psychological need fulfillment into account. Data from a heterogeneous sample of employees from 4 organizations indicate that the relationships that link individual and organizational values to outcomes are explained primarily by the trust that employees place in the organization and its members, followed by communication, and, to a lesser extent, interpersonal attraction. Polynomial regression analyses reveal that the relationships emanating from individual and organizational values often deviated from the idealized value congruence relationship that underlies previous theory and research. The authors' results also show that individual and organizational values exhibited small but significant relationships with job satisfaction and organizational identification that bypassed the mediators in their model, indicating that additional explanations of value congruence effects should be pursued in future research.

Keywords: value congruence, person–organization fit, need fulfillment, work attitudes, mediation

A substantial volume of research has underscored the importance of congruence between the values of employees and organizations (Chatman, 1989; Kristof, 1996; Ostroff & Judge, 2007). This research suggests that when employees hold values that match the values of their employing organization, they are satisfied with their jobs, identify with the organization, and seek to maintain the employment relationship (Kristof, 1996; Kristof-Brown, Zimmerman, & Johnson, 2005; Meglino & Ravlin, 1998; Verquer, Beehr, & Wagner, 2003). These favorable outcomes of value congruence are relevant to employees as well as organizations, as they allow employees to obtain fulfillment from their work roles, help organizations minimize the costs of turnover, and promote extra-role behaviors linked to positive employee attitudes (Cascio, 1999; Podsakoff, MacKenzie, Paine, & Bachrach, 2000; Riketta, 2005).

Although numerous studies have examined relationships between value congruence and outcomes, few studies have attempted to explain *why* these relationships occur. Researchers have suggested various mechanisms that might account for the effects of value congruence, but these mechanisms remain largely speculative because they have not been tested as mediators of the relationships that link value congruence to outcomes. Moreover, reasons given for value congruence effects are scattered throughout the literature and have not been assembled, distilled, and integrated into a coherent theoretical model. Developing such a model would

focus value congruence research on explanations with strong theoretical justification and reveal ways in which different explanations work together to explain value congruence effects.

In this article, we examine the crucial question of *why* positive outcomes might result when employees' values match the values of their organization. To accomplish this goal, we critically examine existing theory and research to identify explanations of value congruence effects that are most viable from a conceptual standpoint. We then integrate these explanations by developing a theoretical model that casts the explanations as mediators of value congruence effects, incorporates relationships among the mediators, and links the mediators to outcomes of central interest in value congruence research. We empirically test this model across eight value dimensions using a large diverse sample of employees, examining the relative strengths of the mediating effects that represent each explanation and probing the specific nature of the value congruence relationship carried by the mediators. Our results show that certain explanations are much stronger than others and that additional mechanisms are needed to fully explain the process relating value congruence to outcomes.

This article makes several contributions to value congruence research. From a theoretical standpoint, we develop a conceptual framework that integrates and extends existing explanations of value congruence effects. This framework is a step forward in theorizing about value congruence (Weick, 1995), given that current attempts to explain value congruence effects are piecemeal and incomplete, and the combined effects of mechanisms linking value congruence to outcomes have received little attention. From an empirical standpoint, we report evidence that reveals which mechanisms are viable, thus moving explanations of value congruence effects beyond speculation to verification and, in some cases, refutation. Results such as these are essential for theoretical

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progress in value congruence research and set the stage for further theory development. In this study, we also formally test the value congruence hypothesis that underlies research in this area, determining whether the joint effects of individual and organization values can be legitimately interpreted as a value congruence effect. These tests apply rules of evidence recently introduced to congruence research (Edwards, 2007) and contribute to a growing body of research showing that value congruence effects are often more complex than implied by theories of value congruence (Choi & Price, 2005; Finegan, 2000; Kalliath, Bluedorn, & Strube, 1999; Nyambegera, Daniels, & Sparrow, 2001; Ostroff, Shinn, & Kinicki, 2005; van Vianen, De Parter, Kristof-Brown, & Johnson, 2004; van Vuuren, Veldkamp, de Jong, & Seydel, 2007).

Theory Development and Hypotheses

The theoretical model we develop to explain the effects of value congruence is shown in Figure 1. This model incorporates four mediators that capture explanations of the process by which value congruence influences attitudinal outcomes. The mediators chosen for the model resulted from a critical review of theoretical discussions of value congruence effects, from which we distilled explanations into common themes and ruled out explanations that had weak justification or were redundant with other explanations. The model also specifies relationships among the mediators, exposing the conceptual logic by which the mediators operate together to produce value congruence effects. Outcomes selected for the model include job satisfaction, organizational identification, and intent to stay, which are theoretically relevant and empirically established in value congruence research (Kristof-Brown et al., 2005; Verquer et al., 2003).

The model in Figure 1 also includes psychological need fulfillment as a mechanism linking value congruence to outcomes. The decision to include psychological need fulfillment was based on the findings of Cable and Edwards (2004), who investigated a theoretical model in which value congruence influenced outcomes both directly and indirectly through psychological need fulfill-

ment. Cable and Edwards found that value congruence and psychological need fulfillment both related independently to outcomes and that the direct effects of value congruence were generally larger than the indirect effects mediated through psychological need fulfillment. These findings prompted an important conceptual question for value congruence research: *What explains the effects of value congruence beyond its ability to fulfill the needs of employees?* Many explanations of value congruence effects suggested in the literature implicitly or explicitly point to psychological need fulfillment as a mediating mechanism, and the need to pursue other explanations was not apparent prior to the findings of Cable and Edwards. Thus, the present article takes Cable and Edwards (2004) findings as a theoretical and empirical point of departure, in that we develop an elaborated model that explains value congruence effects in ways that go beyond psychological need fulfillment, and we empirically test these explanations using data from Cable and Edwards (2004) study, taking psychological need fulfillment into account.

The Concept of Value Congruence

Consistent with prior research (Meglino & Ravlin, 1998; Rokeach, 1973; Schwartz, 1992), we define *values* as general beliefs about the importance of normatively desirable behaviors or end states. Individuals draw from their values to guide their decisions and actions, and organizational value systems provide norms that specify how organizational members should behave and how organizational resources should be allocated. *Value congruence* refers to the similarity between values held by individuals and organizations (Chatman, 1989; Kristof, 1996).

In this article, we conceptualize and measure value congruence in terms of *subjective fit*, which involves the match between an employee's own values and his or her perceptions of the organization's values (French, Rodgers, & Cobb, 1974; Kristof-Brown et al., 2005). Subjective fit can be contrasted with *objective fit* (French et al., 1974; Kristof-Brown et al., 2005), which compares an employee's values with organizational values as seen by other
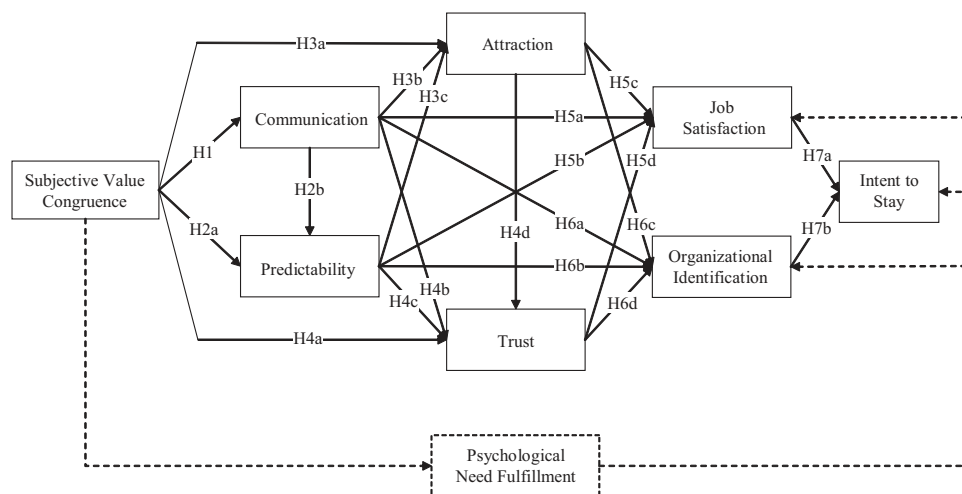

Figure 1. Theoretical model explaining the effects of value congruence. The dashed arrows indicate that the model intends to explain the effects of subjective value congruence on job satisfaction, organizational identification, and intent to stay above and beyond the effects of psychological need fulfillment. H = Hypothesis.

people, such as managers or coworkers. Here, we focus on subjective value congruence because our conceptual objective is to explain why value congruence relates to employee attitudes, as represented by job satisfaction, organizational identification, and intent to stay. These attitudes are subjective and therefore should relate more strongly to the congruence between employee and organizational values as seen by the employee than as seen by other members of the organization (Endler & Magnussen, 1976; French et al., 1974; Kristof-Brown et al., 2005).

Explanations of Value Congruence Effects

We begin the development of our theoretical model by considering the effects of value congruence on communication, predictability, attraction, and trust. We develop explanations of these effects by drawing from value congruence research as well as the broader organizational and psychological literatures concerning the effects of interpersonal and social similarity on the mediators in the model. We also address the effects of the mediators on one another, as these effects often underlie the reasons given as to why value congruence influences the mediators. Thus, our model considers direct effects of value congruence on the mediators as well as indirect effects that are carried by relationships between the mediators.

Communication. One of the most compelling explanations of value congruence effects is that value congruence promotes communication within organizations (Erdogan & Bauer, 2005; Erdogan, Kraimer, & Liden, 2004; Kalliath et al., 1999; Kemelgor, 1982; Meglino & Ravlin, 1998; Meglino, Ravlin, & Adkins, 1989, 1991; Posner, Kouzes, & Schmidt, 1985; van Vianen et al., 2004). In this context, *communication* refers to the open exchange of information through formal and informal interactions among organizational members (Goldhaber, Yates, Porter, & Lesniak, 1978). Theoretically, value congruence should promote communication because having shared standards concerning what is important establishes a common frame for describing, classifying, and interpreting events (Erdogan et al., 2004; Meglino & Ravlin, 1998; Schall, 1983). This common frame facilitates the exchange of information and reduces the likelihood of misunderstandings (Kalliath et al., 1999; Meglino et al., 1989, 1991). Value congruence also implies that people have similar approaches to cognitive processing, such as how verbal and nonverbal signals are encoded and decoded (Wiener, Devoe, Rubinow, & Geller, 1972), and these similarities can further enhance communication (Kalliath et al., 1999; Meglino et al., 1989, 1991). This reasoning drawn from value congruence research is consistent with the broader literature that examines how interpersonal similarity facilitates the frequency and quality of communication (Jablin, 1979; Lincoln & Miller, 1979; Padgett & Wolosin, 1980; Roberts & O'Reilly, 1979; K. G. Smith, Smith, Sims, O'Bannon, & Scully, 1994; Swann, Polzer, Seyle, & Ko, 2004; Triandis, 1959; K. Y. Williams & O'Reilly, 1998; Zenger & Lawrence, 1989). Thus, we hypothesize the following:

> *Hypothesis 1:* Congruence between personal and organizational values is positively related to communication among employees.

Predictability. The effects of value congruence have also been attributed to the notion that it allows employees to predict deci-

sions and events in organizations (Kalliath et al., 1999; Kluckhohn, 1951; Meglino & Ravlin, 1998; Meglino et al., 1989, 1991). Drawing from this literature, we define *predictability* in psychological terms as the confidence people have in their beliefs about how others will act and how events will unfold (Miller, 1981). Value congruence should increase predictability because organizational members who hold shared values have similar motives, set similar goals, and respond to events in similar ways (Kluckhohn, 1951; Meglino et al., 1991; O'Reilly, Chatman, & Caldwell, 1991; Pearce, 1981). These similarities help employees predict what will occur, because employees can use their own motives and goals to anticipate the actions of the organization and its members (Schein, 1990). This theoretical logic resonates with research on relational demography, which suggests that interpersonal similarity promotes mutual understanding and reduces uncertainty concerning how others will behave (Pfeffer, 1983; K. G. Smith et al., 1994).

Value congruence can also increase predictability through its effects on communication. In particular, the open communication fostered by value congruence can help resolve uncertainty about the priorities of the organization, the rules and practices that govern behavior in the organization, and which people in the organization hold positions of significance (Reilly & DiAngelo, 1990; Schuler, 1979). Along similar lines, communication has been linked to reduced role ambiguity, which involves unpredictability concerning the outcomes of role behaviors (House & Rizzo, 1972; Pearce, 1981; Sawyer, 1992; Tsui & O'Reilly, 1989). This reasoning is consistent with the uncertainty reduction theory of communication (Berger, 2005; Berger & Calabrese, 1975), which proposes that a key function of communication is to reduce uncertainty in social interactions, which would render organizational life more predictable. Collectively, these arguments lead to two hypotheses, one that describes the direct effect of value congruence on predictability, and another that completes an indirect effect linking value congruence to predictability through communication:

> *Hypothesis 2a:* Congruence between personal and organizational values is positively related to predictability.

> *Hypothesis 2b:* Communication is positively related to predictability.

Attraction. Attraction is widely discussed as a mechanism by which value congruence affects outcomes (Jehn, 1994; Jehn, Chadwick, & Thatcher, 1997; Jehn, Northcraft, & Neale, 1999; Kalliath et al., 1999; Meglino et al., 1991; O'Reilly et al., 1991; van Vianen, 2000; van Vianen et al., 2004). As used here, *attraction* refers to mutual liking and friendship among organizational members (Berscheid, 1985) as opposed to mere approach–avoidance tendencies (Newcomb, 1956). Conceptually, value congruence is conducive to attraction because agreement on what is important promotes harmony and cooperation among organizational members (Nemeth & Staw, 1989) and increases the likelihood that people share goals and agree on tasks and procedures, thereby avoiding conflict that could undermine positive interpersonal relationships (Jehn, 1994; Jehn et al., 1997, 1999). This reasoning is consistent with research that falls within the similarity-attraction paradigm, which indicates that interactions with similar others are pleasurable because they affirm one's own beliefs, and positive feelings that result from such interactions are

ascribed to the similar others who act as the source of affirmation (Byrne, 1971; Newcomb, 1956).

The effects of value congruence on attraction can also operate through the enhanced communication promoted by value congruence, which smoothes interpersonal interactions and reduces the chance of misunderstandings (Kalliath et al., 1999; Meglino et al., 1991). Likewise, the increased predictability afforded by value congruence can lead to attraction because when the behavior of others is predictable, interpersonal exchanges unfold efficiently (Meglino et al., 1991), and people feel they can depend on one another (Kluckhohn, 1951). These arguments parallel research into mechanisms that link similarity to attraction (Newcomb, 1956; Triandis, 1959). This research suggests that similarity promotes effective communication that people find rewarding, which encourages them to develop positive feelings toward one another. Likewise, the effects of similarity on attraction have been attributed to predictability, such that people form positive feelings toward others whose behavior they can anticipate, which reduces uncertainty and promotes understanding in interpersonal exchanges (Berscheid, 1985; Kelley, 1973). Thus, we propose three hypotheses, one that posits a direct effect of value congruence on attraction, and two that complete indirect effects of value congruence on attraction transmitted through communication and predictability:

> *Hypothesis 3a:* Congruence between personal and organizational values is positively related to attraction.

> *Hypothesis 3b:* Communication is positively related to attraction.

> *Hypothesis 3c:* Predictability is positively related to attraction.

Trust. A final mediating mechanism chosen for our model is the trust employees place in their organization. *Trust* is defined here as the willingness to be vulnerable to the actions of another, due to the expectation that those actions will not harm oneself (Hosmer, 1995; Mayer, Davis, & Schoorman, 1995; M. Williams, 2001). Research on value congruence has indicated that shared values promote the development of trust in relationships (Christiansen, Villanova, & Mikulay, 1997; Enz, 1988; Jehn & Mannix, 2001; Lau, Liu, & Fu, 2007). By its very nature, value congruence implies that the preferences and goals of employees are aligned with those of the organization, and this alignment fosters beliefs among employees that they will not be harmed by the organization (Enz, 1988). Research on trust has also pointed out that trust is likely to develop and persist when people hold similar values (Elangovan & Shapiro, 1998; Jones & George, 1998; Mayer et al., 1995; McAllister, 1995; Sitkin & Roth, 1993; M. Williams, 2001). Value congruence can promote trust by fostering perceptions of integrity, meaning that employees believe the organization adheres to principles that are acceptable (Mayer et al., 1995) and shares basic assumptions about what is right and wrong (Jones & George, 1998; Sitkin & Roth, 1993). The notion that value congruence promotes trust is consistent with a broader stream of research indicating interpersonal and social similarity are conducive to trust (Bauer & Green, 1996; Chattopadhyay & George, 2001; Ferrin, Dirks, & Shah, 2006; Huang & Iun, 2006; Kramer, Brewer, &

Hanna, 1996; Levin, Whitener, & Cross, 2006; McAllister, 1995; Zucker, 1986).

The effects of value congruence on trust can also be explained through the effects of value congruence on communication, predictability, and attraction. Specifically, researchers have argued that open communication creates an environment of security conducive to trust (Korsgaard, Brodt, & Whitener, 2002; Reilly & DiAngelo, 1990). Trust is also rooted in predictability, such that another person is more likely to be viewed as trustworthy when their behavior is consistent and reliable, provided the behavior is not malicious (Butler, 1991; Mayer et al., 1995; Sitkin & Roth, 1993; Zucker, 1986). Positive feelings toward others can also promote trust because emotional bonds that connect people form a foundation for developing trust (McAllister, 1995) and positive feelings toward others foster caring and benevolence that build trust (M. Williams, 2001). The effects of attraction on trust can also be explained in terms of mood-as-information, in that liking another person can invoke a range of positive beliefs toward the person, including the notion that the person is trustworthy (Jones & George, 1998; M. Williams, 2001). This reasoning is rooted in general discussions of the causes of trust, which include open communication, reliability, and positive feelings toward the other party (Barber, 1983; Lewis & Weigert, 1985; Rempel, Holmes, & Zanna, 1985; Rotter, 1967; Shapiro, 1987). On the basis of this reasoning, we offer four hypotheses, one that directly links value congruence to trust, and three that complete indirect effects of value congruence on trust via communication, predictability, and attraction:

> *Hypothesis 4a:* Congruence between personal and organizational values is positively related to trust.

> *Hypothesis 4b:* Communication is positively related to trust.

> *Hypothesis 4c:* Predictability is positively related to trust.

> *Hypothesis 4d:* Attraction is positively related to trust.

Outcomes of Value Congruence

To complete the development of our theoretical model, we now consider the effects of communication, predictability, attraction, and trust on the outcomes in the model, which include job satisfaction, organizational identification, and intent to stay in the organization. The model does not include direct effects of value congruence on the outcomes, given that the goal of the model is to explain how value congruence influences the outcomes through the four mediating mechanisms. Thus, the model makes a strong conceptual claim by stating that after controlling for psychological need fulfillment, the four mediators in the model are sufficient to explain the effects of value congruence on the outcomes. We evaluate this claim by not only testing the paths included in the model but also by examining whether value congruence has any residual (i.e., direct) effects on the outcomes after the mediators are taken into account.

Job satisfaction. Job satisfaction is one of the most widely studied outcomes in value congruence research (Kristof-Brown et al., 2005). We define *job satisfaction* as a pleasurable emotional state associated with one's job (Locke, 1976; Spector, 1997). The conceptual logic linking job satisfaction to the four mediators in

our model draws from established research. In particular, being able to communicate with others in organizations is an important predictor of job satisfaction because open communication provides information that helps employees focus their behavior in ways that achieve personal and organizational goals (Goldhaber et al., 1978; Locke, 1976; Schuler, 1979). Predictability should also enhance job satisfaction because being in an unpredictable environment causes anxiety and thwarts actions that could help employees achieve what they desire (Miller, 1981; Pearce, 1981; Schein, 1990). Attraction should increase job satisfaction because when employees experience mutual liking and friendship with members of the organization, they are likely to have positive feelings about the job as a whole (Jurgensen, 1978; Locke, 1976; P. C. Smith, Kendall, & Hulin, 1969). Finally, being able to trust other people in an organization is likely to promote job satisfaction because trust implies that others act on one's behalf and engage in cooperative behavior toward common goals (Jones & George, 1998; Mayer et al., 1995; McAllister, 1995; M. Williams, 2001). We therefore hypothesize the following:

Hypothesis 5a: Communication is positively related to job satisfaction.

Hypothesis 5b: Predictability is positively related to job satisfaction.

Hypothesis 5c: Attraction is positively related to job satisfaction.

Hypothesis 5d: Trust is positively related to job satisfaction.

Organizational identification. Organizational identification is often cast as an outcome of value congruence. We define *organizational identification* as a sense of oneness with and belonging to the organization (Ashforth & Mael, 1989; Elsbach, 1999). Communication should enhance organizational identification because when employees openly communicate within an organization, they can make sense of the organization and their relationship to it (Ashforth, Harrison, & Corley, 2008; Wiesenfeld, Raghuram, & Garud, 1999) and actively engage in discussions of organizational issues, which in turn should promote feelings of bona-fide membership in the organization (Kuhn & Nelson, 2002; Smidts, Pruyn, & van Riel, 2001). Predictability should also contribute to organizational identification, given that organizations characterized by uncertainty are likely to alienate their members, whereas being able to predict the events that occur in an organization makes it easier to internalize the organization as part of one's personal identity (Corley & Gioia, 2004; Miller, 1981). Attraction is also conducive to organizational identification because when employees have positive relationships with one another, they are more likely to view their organizational membership as part of their personal identity (Hogg & Terry, 2000; Sluss & Ashforth, 2007). Finally, trust should lead employees to identify with the organization because trust increases the willingness of employees to form the bonds that foster identification with the organization (Rousseau, 1998). This reasoning leads to the following hypotheses:

Hypothesis 6a: Communication is positively related to organizational identification.

Hypothesis 6b: Predictability is positively related to organizational identification.

Hypothesis 6c: Attraction is positively related to organizational identification.

Hypothesis 6d: Trust is positively related to organizational identification.

Intent to stay. The final relationships specified by our model indicate that job satisfaction and organizational identification influence intent to stay in the organization. Theoretical and empirical research on employee turnover consistently emphasize job satisfaction as a primary determinant of whether employees remain in or leave an organization (Cotton & Tuttle, 1986; Griffeth, Hom, & Gaertner, 2000; Steers & Mowday, 1981). As this research indicates, being dissatisfied with the job prompts an employee to think about staying versus leaving, the costs of leaving, and the search for job alternatives (Lee & Mowday, 1987), and this process is less likely to commence when job satisfaction is high. Intent to stay with the organization should also be related to organizational identification because the more a person identifies with an organization, the more the person's self-concept is tied to the organization (van Knippenberg, van Dick, & Tavares, 2007). As such, leaving the organization would mean abandoning part of one's self-concept, which is something people generally desire to maintain (Festinger, 1957). Moreover, organizational identification motivates people to pursue the interests of the organization, and leaving the organization runs counter to those interests. Consistent with this reasoning, research has shown that organizational identification is negatively related to turnover intention (Abrams, Ando, & Hinkle, 1998; van Knippenberg et al., 2007) and actual turnover (Mael & Ashforth, 1995). Thus, we hypothesize the following:

Hypothesis 7a: Job satisfaction is positively related to intent to stay.

Hypothesis 7b: Organizational identification is positively related to intent to stay.

Method

Sample

As noted earlier, the data used in this study were drawn from Cable and Edwards (2004), who investigated the relationships of psychological need fulfillment and value congruence with job attitudes. In the present study, we treat Cable and Edwards's findings as a point of departure, examining how relationships between value congruence and job attitudes that remain after controlling for need fulfillment are explained by four mediating constructs not considered in Cable and Edwards's study.

Data were collected from employees in a wide range of job types and levels in four water treatment agencies. General managers of the agencies sent e-mails inviting 3,649 employees to complete the survey via the Internet. In total, 997 employees completed the survey, yielding a 27% response rate. Respondents worked in various technical, administrative, and managerial positions and ranged in level from first-line supervisors to senior

managers. Approximately 69% of the respondents were male, 59% were Caucasian, and most were between 36 and 55 years of age and had worked with the organization 10 or more years (for details, see Cable & Edwards, 2004).

Measures

To assess subjective value congruence, we used the Work Values Survey (WVS; Cable & Edwards, 2004), which was based on Schwartz's (1992) circumplex model of human values. The WVS measures eight core work values: altruism, relationships, pay, security, authority, prestige, variety, and autonomy. For individual values, respondents rated each WVS item in terms of "How important is this to you?" on a 5-point scale ranging from 1 (*not important at all*) to 5 (*extremely important*). For perceived organizational values, respondents indicated "How important is this at your organization?" on a 5-point scale again ranging from 1 (*not important at all*) to 5 (*extremely important*). These measures are consistent with value congruence research, in which values are measured in terms of the importance of attributes to the person and organization (Kristof, 1996; Meglino & Ravlin, 1998; Schwartz, 1992). The WVS items were also used to measure psychological need fulfillment by asking respondents to rate psychological needs and perceived organizational supplies associated with each item. For psychological needs, respondents were asked "How much is the right amount for you?" on a 5-point scale ranging from 1 (*none*) to 5 (*a very great amount*). For perceived organizational supplies, respondents rated "How much is present in your work?" on a 5-point scale again ranging from 1 (*none*) to 5 (*a very great amount*). This approach is consistent with prior research on psychological need fulfillment (French, Caplan, & Harrison, 1982; Locke, 1976).

The mediating constructs were measured as follows. To measure communication, we developed six items that assessed employees' ability to exchange and interpret information (e.g., Goldhaber & Rogers, 1979; Goldhaber et al., 1978). These items were as follows: "Having people in this organization understand what I say," "Communicating openly with others in this organization," "Understanding what people in this organization say to me," "Having clear conversations with people in this organization," "Having honest discussions with other people in this organization," and "Having other people in this organization understand me." Respondents rated each statement "in terms of how often it occurs" on a 5-point scale ranging from 1 (*never*) to 5 (*always*). We assessed predictability on the basis of Miller's (1981, pp. 204–205) definition of contingency predictability as "when an individual knows when and under what circumstances an event will occur." We wrote four items that applied Miller's definition to organizational contexts: "Being able to predict what is going to happen in this organization," "Being able to guess how events are going to develop in this organization," "Knowing what will happen in this organization," and "Understanding how events will unfold in this organization." Respondents rated each statement on a 5-point scale again ranging from 1 (*never*) to 5 (*always*). We measured attraction using Wayne and Ferris's (1990) four-item scale, which included items such as "I like my coworkers very much," and "I think my coworkers would make good friends." Respondents rated each statement on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Finally, we measured

trust using Robinson's (1996) six-item scale. Sample items include "I believe my employer has high integrity" and "I fully trust my employer," and respondents rated each statement on a 5-point scale again ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

We measured outcomes using scales drawn from previous research. Job satisfaction was measured with three items used by Edwards and Rothbard (1999) that describe overall satisfaction with the job (e.g., "All in all, the job I have is great"). Organizational identification was measured with Mael and Ashforth's (1992) six-item scale that captures perceived oneness with an organization (e.g., "When someone criticizes my firm, it feels like a personal insult"). Intent to stay was measured with a four-item scale from O'Reilly et al. (1991), which assesses thoughts and actions that reflect intentions to stay or leave an organization (e.g., "I have thought seriously about changing organizations since beginning to work here"). All three measures used response scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Analyses

We tested our hypotheses by estimating regression equations that included the predictors of each mediator and outcome variable, as specified by our model. For communication, the sole predictors were individual and organizational values, and therefore the regression equation was as follows:

$$C = b_{C0} + b_{C1}O + b_{C2}I + b_{C3}O^2 + b_{C4}OI + b_{C5}I^2 + e_C,$$

(1)

where C represents communication, and O and I are organizational and individual values for one of the eight value dimensions. The terms O^2, OI, and I^2 were included along with O and I to determine whether the effects of individual and organizational values can be interpreted as a value congruence effect (Edwards, 1994, 2002; Edwards & Parry, 1993), as described later. For predictability, the regression equation included individual and organizational values as well as communication, as shown below:

$$P = b_{P0} + b_{P1}O + b_{P2}I + b_{P3}O^2 + b_{P4}OI + b_{P5}I^2 + b_{P6}C + e_P,$$

(2)

where P refers to predictability. The regression equation for attraction included individual and organizational values, communication, and predictability, as shown below:

$$A = b_{A0} + b_{A1}O + b_{A2}I + b_{A3}O^2 + b_{A4}OI + b_{A5}I^2 + b_{A6}C$$
$$+ b_{A7}P + e_A,$$ (3)

where A represents attraction. In similar fashion, the regression equation for trust used individual and organizational values, communication, predictability, and attraction as predictors, as follows:

$$T = b_{T0} + b_{T1}O + b_{T2}I + b_{T3}O^2 + b_{T4}OI + b_{T5}I^2 + b_{T6}C$$
$$+ b_{T7}P + b_{T8}A + e_T,$$ (4)

where T refers to trust.

As dictated by our model, the regression equations for the three outcomes controlled for psychological need fulfillment, which allowed us to determine how well the mediators presumed to

account for the effects of value congruence explained variance in the outcomes beyond that explained by psychological need fulfillment. For job satisfaction, the regression equation was as follows:

$$JS = b_{JS0} + b_{JS1}S + b_{JS2}N + b_{JS3}S^2 + b_{JS4}SN + b_{JS5}N^2$$
$$+ b_{JS6}C + b_{JS7}P + b_{JS8}A + b_{JS9}T + e_{JS}, \quad (5)$$

where JS refers to job satisfaction, and S and N are organizational supplies and psychological needs, respectively. Similarly, the regression equation for organizational identification was as follows:

$$ID = b_{ID0} + b_{ID1}S + b_{ID2}N + b_{ID3}S^2 + b_{ID4}SN + b_{ID5}N^2$$
$$+ b_{ID6}C + b_{ID7}P + b_{ID8}A + b_{ID9}T + e_{ID}, \quad (6)$$

where ID refers to identification with the organization. Finally, the regression equation for intent to stay was as follows:

$$IS = b_{IS0} + b_{IS1}S + b_{IS2}N + b_{IS3}S^2 + b_{IS4}SN + b_{IS5}N^2$$
$$+ b_{IS6}JS + b_{IS7}ID + e_{IS}, \quad (7)$$

where IS represents intent to stay.

Results from Equations 1–7 were used to obtain path coefficients for our model. For predictors represented as single variables—such as communication, predictability, attraction, trust, job satisfaction, and organizational identification—standardized regression coefficients for the variables were used as path coefficients (Pedhazur, 1982). For individual and organizational values—which were represented by the five quadratic terms O, I, O^2, OI, and I^2—a path coefficient was obtained by treating the five terms as a block variable (Heise, 1972; Igra, 1979). A block variable is a weighted linear composite of the variables that constitute the block, in which the weights are the estimated regression coefficients for the variables in the block. For instance, the block variable associated with Equation 1, in which individual and organizational values predict communication, equals $b_{C1}O + b_{C2}I + b_{C3}O^2 + b_{C4}OI + b_{C5}I^2$. The five quadratic terms are then replaced with the block variable, the regression equation is reestimated, and the standardized coefficient on the block variable serves as a path coefficient. The coefficients on the other predictors in the equation are unaffected, and the variance explained by the equation using the block variable is identical to that explained by the equation using the original quadratic terms, given that the block variable is computed from the coefficient estimates for the quadratic terms themselves. The path coefficients obtained from these procedures were used to assess the direct, indirect, and total effects associated with our model, allowing us to determine the extent to which each of the mediators in our model carried the effects of individual and organizational values on the outcomes. The indirect and total effects involved products of path coefficients, which we tested using bias-corrected confidence intervals constructed from estimates based on 10,000 bootstrap samples (Efron & Tibshirani, 1993; MacKinnon, Lockwood, & Williams, 2004).

Results from Equations 1–4 were also used to determine whether the coefficients on individual and organizational values signified a value congruence effect. These coefficients were used to plot three-dimensional surfaces in which individual and organizational values were perpendicular horizontal axes, and the dependent variable was the vertical axis (Edwards & Parry,

1993). A surface representing a theoretically idealized value congruence effect is shown in Figure 2. On the floor of the figure are two conceptual reference lines: (a) the *congruence line*, along which individual and organizational values are equal, and (b) the *incongruence line*, along which individual and organizational values differ. These reference lines underscore three key features of the surface and offer a means to assess whether results support a congruence effect. First, the surface is curved downward along the incongruence line, such that the dependent variable decreases when individual and organizational values differ from each other in either direction. Second, the ridge that describes the peak of the surface runs along the congruence line, such that the dependent variable is maximized at the point of congruence at all levels of individual and organizational values. Third, the surface is flat along the congruence line, such that the level of the outcome is the same regardless of whether individual and organizational values are low or high in absolute terms.

These surface features translate into three conditions that can be tested using response surface methodology (Edwards, 2007). Specifically, if a surface is curved downward along the incongruence line, then the quantity $b_3 - b_4 + b_5$ should be negative. If the ridge of the surface runs along the congruence line, then the first principal axis of the surface should have a slope of 1 and an intercept of 0.[1] Finally, if a surface is flat along the congruence line, then the quantities $b_1 + b_2$ and $b_3 + b_4 + b_5$ should both equal 0. We tested the first and third conditions using procedures for testing linear combinations of regression coefficients (Cohen & Cohen, 1983). The second condition involves nonlinear combinations of regression coefficients, which we tested using the bootstrap (Efron & Tibshirani, 1993). For these tests, we estimated Equations 1–4 using 10,000 bootstrap samples, and we used the resulting estimates to construct bias-corrected confidence intervals (Edwards, 2002). Prior to these analyses, the measures of organizational and individual values were scale-centered by subtracting the midpoint of the scale (Edwards, 1994).

Because the surface in Figure 2 depicts an idealized value congruence effect, the conditions needed to support this effect are stringent. However, it would be misleading to conclude that failure to support all three conditions rejects the hypothesized value congruence effect. The first condition, which requires downward curvature along the incongruence line, is necessary to claim support for a value congruence effect. The second condition ensures that the dependent variable is maximized when individual and organizational values are congruent, but failure to support this condition does not necessarily preclude a value congruence effect. For instance, if the surface in Figure 2 was rotated but its ridge crossed the congruence line, then a value congruence effect would be supported at the level of individual and organizational values where the ridge intersects the congruence line. Finally, if the third

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[1] For the surface in Figure 2, the first principal axis runs through the X,Y plane directly below the ridge of the surface. If the first principal axis has a slope of 1 and an intercept of 0, then the equation for the first principal axis is Y = X, which corresponds to the congruence line. For details concerning the computation, testing, and interpretation of principal axes and other features of response surfaces, see Edwards (2002) and Edwards and Parry (1993).
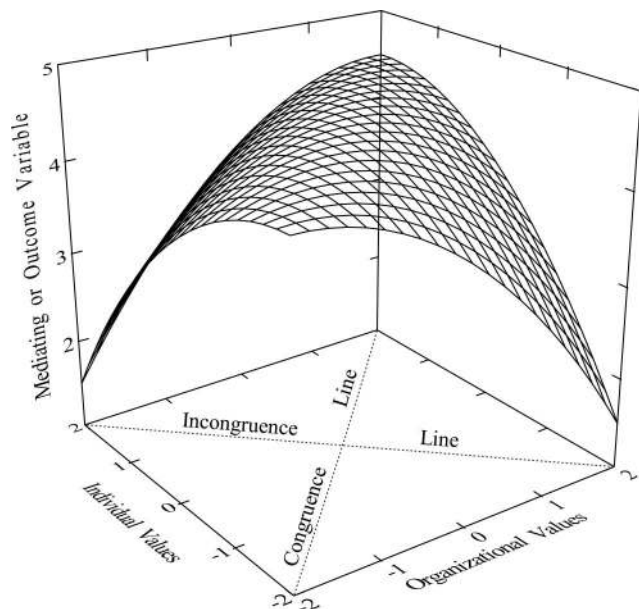
Figure 2. Hypothetical surface representing a congruence effect for individual and organizational values.

condition is rejected, meaning the height of the surface varies along the congruence line, but the first two conditions are met, then support can be inferred for a value congruence effect with the caveat that the maximum value of the outcome depends on whether individual and organizational values are low or high.

On the basis of this reasoning, we prioritized the three conditions such that if the first and second conditions were met, we inferred support for a value congruence effect (Edwards, 2007). If the first condition was met, but the second condition was not, we examined how the ridge deviated from the congruence line by examining the slope and intercept of the first principal axis (Edwards & Parry, 1993). These tests determined whether a congruence effect was obtained at particular levels of individual and organizational values. The third condition was tested to assess deviation from the idealized surface in Figure 2, but failure to support this condition was not considered grounds to reject a value congruence hypothesis.

One of the key questions raised by our model is whether the effects of value congruence on the outcomes are adequately explained by communication, predictability, attraction, and trust, once psychological need fulfillment has been taken into account. To answer this question, we concluded our analyses by testing the direct effects of individual and organizational values on job satisfaction, organizational identification, and intent to stay. These effects were tested by adding the five quadratic terms O, I, O^2, OI, and I^2 to Equations 5, 6, and 7 and testing the increment in variance explained. If this increment was not significant, then we concluded that the mediators in our model were sufficient to explain the effects of values on the outcomes. However, if the increment in variance explained was significant, then additional mediators are needed to fully capture the effects of individual and organizational values. For completeness, we also tested the direct effects of the mediators on intent to stay to determine whether the

effects of the mediators were fully transmitted through job satisfaction and organizational identification.

Response surface analyses are sensitive to influential observations, which are those that have a relatively large effect on parameter estimates (Belsley, Kuh, & Welsch, 1980). To detect such observations, we screened results from Equation 1 using leverage, studentized residuals, and Cook's *D* statistic as criteria (Belsley et al., 1980; Fox, 1991). Cases that exceeded the minimum cutoff on all three criteria (Bollen & Jackman, 1990) and were clearly discrepant on plots that combined the criteria were dropped. This procedure was conservative, affecting no more than seven observations per equation, or less than 1% of the cases analyzed.

Our theoretical model did not predict different effects for the eight value dimensions. Therefore, we tested each hypothesis eight times, once for each value dimension. To control Type I error, we used the sequential Bonferroni procedure (Seaman, Levin, & Serlin, 1991). The probability levels of the eight tests of each hypothesis were listed in ascending order, and the first (i.e., smallest) probability was multiplied by the total number of tests (i.e., eight). If that probability remained less than .05, the next probability level was multiplied by the number of remaining tests (i.e., seven). This procedure continued until all eight probability levels were corrected, and only the corrected probability levels that remained below .05 were considered statistically significant.

Results

Descriptive Statistics

Table 1 presents means, standard deviations, correlations, and reliability estimates (coefficient omega; K. W. Smith, 1974) for the measures used in the study.[2] The variable means and standard deviations indicated good dispersion and little evidence of floor or ceiling effects. The correlations among the eight value dimensions were modest, with conceptually related dimensions (e.g., pay and security) exhibiting higher correlations. The correlations among the mediating variables were positive and generally modest in magnitude. Job satisfaction, organizational identification, and intent to stay were positively correlated, as would be expected from prior research. Reliability estimates were generally high (average $\omega = .85$). A confirmatory factor analysis of the 129 items representing the 39 constructs listed in Table 1 indicated good fit, as evidenced by a comparative fit index (Bentler, 1990) of .98 and a root-mean-square error of approximation (Steiger, 1990) of .04. Taken together, this evidence indicates that the measures were suitable for our study.

Tests of Hypotheses Relating Values to Mediators

Results concerning our hypotheses relating value congruence to the mediators and the mediators to one another are reported in

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[2] Coefficient omega is a generalization of Cronbach's (1951) alpha that relaxes the assumption of tau equivalence, meaning the items that constitute a measure have equal loadings on the factor that signifies the underlying construct. When this assumption is violated, as is generally the case, alpha underestimates reliability. Omega avoids this bias by dropping tau equivalence assumption, such that items can have unequal loadings. If item loadings happen to be equal, omega reduces to alpha.

Table 1
Descriptive Statistics

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Personal values																	
1. Altruism	4.10	0.66	(.80)														
2. Relationships	3.64	0.78	.37	(.85)													
3. Pay	4.27	0.60	.13	.21	(.84)												
4. Security	4.40	0.72	.11	.18	.52	(.90)											
5. Authority	3.83	0.75	.26	.27	.31	.34	(.85)										
6. Prestige	3.69	0.71	.35	.37	.32	.24	.36	(.69)									
7. Variety	3.81	0.70	.28	.27	.18	.11	.16	.37	(.79)								
8. Autonomy	3.91	0.61	.24	.27	.28	.17	.20	.39	.49	(.69)							
Organizational values																	
9. Altruism	3.51	0.91	.28	.13	.17	.17	.21	.22	.08	.10	(.85)						
10. Relationships	2.83	0.89	.22	.29	.13	.08	.18	.22	.18	.13	.55	(.85)					
11. Pay	3.50	0.86	.16	.10	.02	−.02	.04	.11	.09	.06	.36	.43	(.85)				
12. Security	3.14	1.09	.15	.08	.03	.02	.12	.16	.09	.10	.40	.55	.59	(.92)			
13. Authority	3.53	0.99	.11	.09	.04	.02	−.09	.18	.12	.09	.36	.38	.37	.39	(.85)		
14. Prestige	3.31	0.87	.18	.14	.04	.06	.08	.13	.11	.10	.41	.49	.43	.42	.45	(.70)	
15. Variety	2.84	0.88	.20	.18	.13	.16	.26	.21	.21	.15	.46	.54	.31	.38	.27	.40	(.81)
16. Autonomy	2.89	0.85	.17	.13	.14	.17	.24	.22	.14	.16	.52	.59	.43	.56	.39	.45	.60
Personal needs																	
17. Altruism	3.62	0.75	.71	.24	.06	.04	.18	.29	.24	.18	.23	.18	.14	.13	.13	.14	.16
18. Relationships	3.29	0.77	.31	.76	.15	.11	.22	.31	.24	.22	.09	.21	.10	.08	.10	.12	.14
19. Pay	3.95	0.64	.09	.11	.55	.32	.18	.20	.12	.22	.05	.02	.06	.05	.04	.04	.03
20. Security	4.14	0.78	.11	.15	.43	.78	.28	.19	.08	.14	.12	.04	.02	.02	.04	.06	.13
21. Authority	3.58	0.71	.21	.19	.21	.27	.73	.26	.14	.15	.18	.15	.09	.15	−.07	.10	.21
22. Prestige	3.44	0.69	.29	.35	.23	.15	.26	.73	.34	.35	.12	.16	.09	.11	.14	.10	.15
23. Variety	3.68	0.70	.24	.19	.13	.05	.13	.21	.67	.37	.09	.11	.10	.09	.12	.09	.15
24. Autonomy	3.74	0.63	.19	.20	.17	.08	.15	.26	.36	.60	.05	.08	.07	.10	.07	.05	.07
Organizational supplies																	
25. Altruism	3.08	0.92	.29	.13	.15	.14	.21	.21	.07	.07	.70	.46	.29	.37	.29	.37	.40
26. Relationships	2.87	0.79	.13	.24	.07	.01	.10	.13	.11	.09	.38	.60	.32	.37	.28	.38	.35
27. Pay	3.38	0.78	.16	.08	−.02	−.02	.05	.02	.06	.03	.29	.27	.62	.38	.22	.33	.21
28. Security	3.13	1.05	.11	.07	.06	.05	.06	.13	.08	.08	.34	.39	.43	.71	.33	.36	.27
29. Authority	3.31	0.97	.10	.06	.05	.05	−.09	.12	.10	.05	.29	.26	.28	.29	.74	.33	.19
30. Prestige	2.94	0.85	.15	.11	.06	.09	.13	.14	.10	.07	.41	.45	.34	.42	.39	.55	.38
31. Variety	3.19	0.89	.12	.07	.07	.01	.12	.06	.18	.11	.27	.28	.21	.23	.19	.32	.50
32. Autonomy	3.12	0.81	.13	.05	.08	.03	.14	.11	.11	.14	.32	.35	.29	.35	.23	.30	.37
Mediating variables																	
33. Communication	3.07	0.77	.10	.11	.06	.04	.07	.08	.08	.01	.34	.36	.27	.33	.30	.25	.23
34. Predictability	2.26	0.84	.08	.12	.01	−.07	.01	.11	.09	.04	.23	.30	.22	.33	.26	.21	.20
35. Attraction	3.84	0.61	.18	.42	.13	.11	.11	.15	.10	.08	.20	.24	.10	.14	.13	.16	.13
36. Trustworthiness	3.11	0.97	.10	.06	.09	.10	.08	.08	.02	−.01	.55	.53	.37	.53	.38	.35	.40
Outcome variables																	
37. Job satisfaction	3.70	0.91	.14	.11	.13	.16	.15	.08	.07	.02	.45	.42	.26	.36	.25	.28	.38
38. Intent to stay	3.60	0.88	.07	.10	.17	.32	.18	.07	.00	.02	.36	.33	.18	.25	.17	.20	.34
39. Organizational identification	3.55	0.78	.26	.22	.11	.14	.14	.20	.10	.07	.39	.38	.23	.25	.18	.27	.34

Note. $N = 918$. Correlations greater than .07 in absolute magnitude are significant at $p < .05$; correlations greater than .09 in absolute magnitude are significant at $p < .01$. Reliability estimates (coefficient omega) are reported along the diagonal.

Tables 2 and 3. Table 2 contains estimates of paths relating individual and organizational values to the mediating variables and the mediating variables to one another. Table 3 summarizes results from response surface analyses indicating whether the relationships for individual and organization values reported in Table 2 satisfy the three conditions for a congruence effect. Table 4 contains paths relating the mediator variables to the outcomes and the outcomes to one another.

We first consider results concerning the relationships for value congruence and the mediator variables, as shown in Tables 2 and 3. Recall that Hypothesis 1 predicted that value congruence would enhance communication. As shown in Table 2, the path relating

individual and organization values to communication was significant for all eight value dimensions. This path also equals the total effect of values on communication because, according to our model, the direct effect represented by the individual path is the only mechanism by which values influence communication. To determine whether the path from values to communication signified a value congruence effect, we examined whether the three conditions for congruence were satisfied, as shown in Table 3. For all eight value dimensions, the first condition was fulfilled, meaning that the surface was curved downward along the incongruence line. For three dimensions, the second condition was also met, indicating that the ridge of the surface did not deviate significantly from the congruence line. Finally, the third

Table 1 *(continued)*

16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
(.74)																							
.18	(.86)																						
.12	.36	(.91)																					
.05	.19	.22	(.87)																				
.14	.15	.17	.46	(.92)																			
.23	.24	.27	.26	.34	(.87)																		
.15	.37	.43	.34	.24	.35	(.79)																	
.14	.33	.32	.28	.13	.24	.36	(.88)																
.12	.29	.28	.32	.15	.28	.42	.56	(.79)															
.47	.45	.16	.18	.15	.21	.19	.14	.14	(.88)														
.39	.16	.35	.11	.03	.17	.18	.20	.16	.46	(.89)													
.29	.18	.13	.22	.07	.16	.08	.15	.13	.35	.36	(.89)												
.44	.15	.11	.12	.12	.16	.14	.13	.14	.39	.46	.47	(.94)											
.31	.18	.11	.10	.09	.01	.16	.18	.12	.33	.29	.27	.37	(.90)										
.49	.19	.15	.11	.11	.19	.17	.18	.15	.48	.50	.36	.46	.45	(.80)									
.38	.14	.14	.11	.05	.19	.14	.39	.25	.33	.40	.26	.26	.23	.39	(.90)								
.54	.17	.12	.13	.07	.19	.13	.28	.35	.41	.45	.36	.44	.30	.50	.61	(.82)							
.36	.10	.14	.11	.06	.13	.11	.17	.14	.34	.39	.25	.34	.34	.45	.30	.41	(.90)						
.26	.09	.14	.05	−.05	.05	.15	.14	.12	.23	.29	.17	.31	.26	.29	.18	.27	.54	(.91)					
.15	.16	.43	.11	.08	.16	.17	.13	.16	.25	.32	.13	.19	.15	.27	.18	.18	.39	.22	(.83)				
.56	.11	.09	.04	.08	.10	.06	.08	.06	.50	.39	.29	.48	.39	.51	.30	.42	.58	.42	.38	(.93)			
.46	.10	.09	.09	.15	.17	.04	.12	.11	.43	.34	.26	.36	.24	.45	.34	.42	.51	.31	.44	.68	(.90)		
.38	.03	.06	.13	.27	.18	.01	.06	.07	.35	.26	.21	.27	.18	.33	.28	.34	.37	.20	.37	.56	.73	(.78)	
.36	.23	.21	.05	.09	.13	.18	.13	.11	.38	.26	.18	.19	.16	.35	.26	.30	.38	.27	.40	.53	.52	.46	(.87)

condition was met for four value dimensions, such that communication did not vary along the line of congruence. These results give moderate support for the hypothesized value congruence effect shown in Figure 2, although none of the value dimensions satisfied all three conditions.

To illustrate how individual and organizational values related to communication, we averaged the coefficient estimates for the five quadratic terms across the eight value dimensions and plotted the surface shown in Figure 3. Although the averaged coefficients mask differences in results across the eight value dimensions, the surfaces for the eight dimensions are similar, and plotting a surface for the average coefficients gives a useful summary of the results without resorting to plots for all eight dimensions.[3] We evaluated the surface in Figure 3 using the three conditions for congruence, drawing from response surface analyses of the averaged coefficients. The results of these analyses are summarized in the far right column of Table 3. According to these analyses, the first condition for congruence was met, meaning the surface is curved downward along the incongruence line. However, the second condition was not met, as demonstrated by the shift and rotation of the ridge of the surface off the congruence

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[3] Surface plots for each of the eight value dimensions are available from Jeffrey R. Edwards.

Table 2
Effects Relating Individual and Organizational Values to Mediators

	Value dimension								
Path type	Altruism	Relationships	Pay	Security	Authority	Prestige	Variety	Autonomy	Average
Individual paths									
Values → Communication	0.35**	0.39**	0.31**	0.36**	0.35**	0.30**	0.31**	0.38**	0.35**
Values → Predictability	0.06	0.13**	0.10	0.20**	0.13**	0.13**	0.10	0.11	0.12**
Communication → Predictability	0.52**	0.50**	0.52**	0.48**	0.49**	0.51**	0.52**	0.50**	0.50**
Values → Attraction	0.21**	0.39**	0.13**	0.12*	0.14**	0.15**	0.09	0.11*	0.17**
Communication → Attraction	0.35**	0.36**	0.39**	0.37**	0.36**	0.36**	0.36**	0.38**	0.37**
Predictability → Attraction	0.01	−0.02	0.02	0.03	0.02	-0.00	0.01	0.01	0.01
Values → Trust	0.40**	0.41**	0.31**	0.43**	0.31**	0.28**	0.32**	0.42**	0.36**
Communication → Trust	0.32**	0.29**	0.34**	0.32**	0.35**	0.37**	0.36**	0.29**	0.33**
Predictability → Trust	0.13**	0.12**	0.13**	0.08*	0.11**	0.12**	0.13**	0.11**	0.12**
Attraction → Trust	0.15**	0.22**	0.19**	0.16**	0.18**	0.16**	0.17**	0.18**	0.18**
Total effects									
Values → Communication	0.35**	0.39**	0.31**	0.36**	0.35**	0.30**	0.31**	0.38**	0.35**
Values → Predictability	0.24**	0.33**	0.27**	0.37**	0.31**	0.29**	0.26**	0.30**	0.29**
Values → Attraction	0.34**	0.53**	0.25**	0.26**	0.28**	0.26**	0.21**	0.26**	0.30**
Values → Trust	0.59**	0.68**	0.50**	0.62**	0.52**	0.46**	0.50**	0.61**	0.56**

Note. N = 918. Under the "Path type" column, the term "Values" refers to the five quadratic terms for subjective value congruence (i. e., organizational values, individual values, their squares, and their product). In the upper panel, the paths reported for Values are standardized coefficients estimated from block variables constructed from the five quadratic terms for subjective value congruence (see text), and the paths for the mediator variables are standardized regression coefficients. In the lower panel, the paths are standardized total effects computed from the coefficients in the upper panel.
* $p < .05$.   ** $p < .01$.

line. The location of the ridge indicates that communication is maximized by value congruence only when individual and organization values are high, as evidenced by the point at which the first principal axis (i.e., the solid line running diagonally across the floor of the surface) crosses the congruence line. The third condition was also not met because of the positive slope of the surface along the congruence line. This positive slope means that, overall, communication was higher when individual and organizational values were both high than when both were low.

Hypothesis 2a stated that value congruence would directly enhance predictability. As shown in the upper section of Table 2,

individual and organization values were jointly related to predictability for value dimensions that referred to relationships, security, authority, and prestige. However, results in Table 3 indicate that for these dimensions, the conditions for a congruence effect received little support. Hypothesis 2b stated that communication would relate positively to predictability. This hypothesis was supported for all value dimensions, as shown in the upper section of Table 2. Combining the path from communication to predictability with the path from values to communication completes an indirect effect of values on predictability, which was added to the direct effect to produce the total effect shown in the lower section of

Table 3
Tests of Conditions for Value Congruence Effects on Mediators

	Value dimension								
Path type	Altruism	Relationships	Pay	Security	Authority	Prestige	Variety	Autonomy	Average
Individual paths									
Values → Communication	1 2 -	1 - -	1 2 -	1 - 3	1 - 3	1 2 -	1 - 3	1 - 3	1 - -
Values → Predictability	- 2 -	- 2 -	- - 3	- - 3	- - 3	- - 3	2 3	- 2 -	- - 3
Values → Attraction	- - 3	- - -	- - 3	- - 3	- 2 -	- - -	2 3	- - 3	- - 3
Values → Trust	1 - -	1 - -	1 2 3	1 - -	1 2 3	1 - -	1 - 3	- - -	1 - -
Total effects									
Values → Communication	1 2 -	1 - -	1 2 -	1 - 3	1 - 3	1 2 -	1 - 3	1 - 3	1 - -
Values → Predictability	- 2 -	- 2 -	- 2 3	- - 3	- - 3	- - -	2 3	- - -	- - -
Values → Attraction	1 - -	- 2 -	- - 3	- - 3	- - -	- 2 -	1 2 3	1 2 3	1 - -
Values → Trust	1 2 -	1 - -	1 2 -	1 - -	1 - -	1 - -	1 - -	1 - -	1 - -

Note. N = 918. Under the "Path type" column, the term "Values" refers to the five quadratic terms for subjective value congruence (i.e., organizational values, individual values, their squares, and their product). Table entries indicate which of the three conditions for a value congruence effect were met. Condition 1 stipulates that the surface is curved downward along the incongruence line, Condition 2 indicates that the ridge of the surface runs along the congruence line, and Condition 3 states that the surface is flat along the congruence line. A dash means that a condition was not met.

Table 4
Effects Relating Mediators to Outcomes

Path type	Value dimension								
	Altruism	Relationships	Pay	Security	Authority	Prestige	Variety	Autonomy	Average
Individual paths									
Communication → Job satisfaction	0.11**	0.12**	0.12**	0.12**	0.13**	0.10**	0.09**	0.09**	0.11**
Predictability → Job satisfaction	−0.03	−0.04	−0.03	−0.03	−0.03	−0.04	−0.03	−0.04	−0.03
Attraction → Job satisfaction	0.19**	0.22**	0.19**	0.19**	0.18**	0.19**	0.19**	0.19**	0.19**
Trust → Job satisfaction	0.49**	0.52**	0.53**	0.51**	0.54**	0.49**	0.51**	0.50**	0.51**
Communication → Identification	0.01	0.03	0.02	0.03	0.04	0.01	0.01	0.01	0.02
Predictability → Identification	0.03	0.03	0.03	0.05	0.04	0.02	0.03	0.03	0.03
Attraction → Identification	0.20**	0.17**	0.22**	0.22**	0.22**	0.20**	0.22**	0.22**	0.21**
Trust → Identification	0.37**	0.43**	0.40**	0.44**	0.42**	0.38**	0.40**	0.39**	0.40**
Job satisfaction → Intent to stay	0.64**	0.66**	0.65**	0.63**	0.64**	0.66**	0.66**	0.66**	0.65**
Identification → Intent to stay	0.12**	0.12**	0.11**	0.10**	0.10**	0.12**	0.11**	0.11**	0.11**
Total effects									
Communication → Job satisfaction	0.38**	0.41**	0.43**	0.40**	0.44**	0.39**	0.40**	0.36**	0.40**
Predictability → Job satisfaction	0.04	0.02	0.04	0.02	0.04	0.02	0.04	0.02	0.03
Attraction → Job satisfaction	0.26**	0.34**	0.29**	0.28**	0.28**	0.27**	0.27**	0.28**	0.28**
Trust → Job satisfaction	0.49**	0.52**	0.53**	0.51**	0.54**	0.49**	0.51**	0.50**	0.51**
Communication → Identification	0.26**	0.29**	0.33**	0.32**	0.34**	0.29**	0.30**	0.27**	0.30**
Predictability → Identification	0.08*	0.07	0.09*	0.10*	0.09*	0.08*	0.09*	0.08	0.08
Attraction → Identification	0.25**	0.27**	0.30**	0.29**	0.29**	0.26**	0.28**	0.29**	0.28**
Trust → Identification	0.37**	0.43**	0.40**	0.44**	0.42**	0.38**	0.40**	0.39**	0.40**
Job satisfaction → Intent to stay	0.64**	0.66**	0.65**	0.63**	0.64**	0.66**	0.66**	0.66**	0.65**
Identification → Intent to stay	0.12**	0.12**	0.11**	0.10**	0.10**	0.12**	0.11**	0.11**	0.11**

Note. $N = 918$. For each value dimension, the paths reported in the upper left of the table are standardized regression coefficients, and the paths reported in the lower left of the table are total effects computed from standardized regression coefficients.
* $p < .05$. ** $p < .01$.

Table 2. This total effect was significant for all eight value dimensions, primarily because of the indirect effect of values on predictability transmitted by communication. Nonetheless, the surfaces corresponding to the total effect did not satisfy the conditions for value congruence, as shown by the results in the lower section of Table 3. Surfaces for the direct and total effects of values on predictability are shown in Figures 4a and 4b, using coefficients averaged across the eight value dimensions. As can be seen, the surface for the direct effect was not curved downward along the incongruence line, whereas the surface for the total effect had a slight downward curvature combined with a substantial shift and rotation of the ridge off the congruence line. Both of these surfaces deviate markedly from the hypothesized surface in Figure 2.

Hypothesis 3a predicted that value congruence would have a direct positive effect on attraction. The upper section of Table 2 shows that individual and organizational values were related to attraction for all eight value dimensions. However, results in Table 3 indicate that these relationships did not satisfy the conditions for a congruence effect. Hypotheses 3b and 3c stated that communication and predictability would be positively related to attraction. Results in Table 2 yield support for Hypothesis 3b but not Hypothesis 3c, meaning that communication was related to attraction, but predictability was not. Combining the paths from individual and organizational values to communication, predictability, and attraction with the paths relating these mediators to one another yields the total effect of values on attraction. This effect was significant for all eight value dimensions, as shown in the lower section of Table 2. Moreover, the total effects for variety and autonomy satisfied all three conditions for congruence, meaning

that for these dimensions, the surfaces relating individual and organizational values to attraction were consistent with the hypothetical surface shown in Figure 2. For the remaining value dimensions, the conditions for congruence were not met primarily because of the lack of significant downward curvature along the incongruence line. Surfaces for the direct and total effects of values on attraction based on averaged coefficients are shown in Figures 5a and 5b, which capture the general thrust of these results.

Finally, Hypothesis 4a predicted that value congruence would directly impact trust. Results in the upper section of Table 2 indicate that individual and organizational values were related to trust across all eight value dimensions. Table 3 shows that the first condition for congruence was met for all eight dimension, and all three conditions were met for pay and authority, such that the associated surfaces were consistent with the hypothesized surface in Figure 2. More detailed assessment of the response surface results revealed that when the conditions for congruence were violated, the primary reason was that the surface was shifted and rotated into the region where organizational values were greater than individual values. These results are illustrated in Figure 6a, in which we plot the surface for the direct effect of individual and organization values on trust using coefficients averaged across the eight value dimensions. As this surface shows, trust reaches a peak at the point of value congruence when individual and organizational values are both high. As individual and organization values decrease, the point at which trust peaks shifts into the region where organizational values exceed individual values. This surface also shows that trust tends to be higher when individual and organizational values are both high than when both are low, a trend found for five of the eight value dimensions.
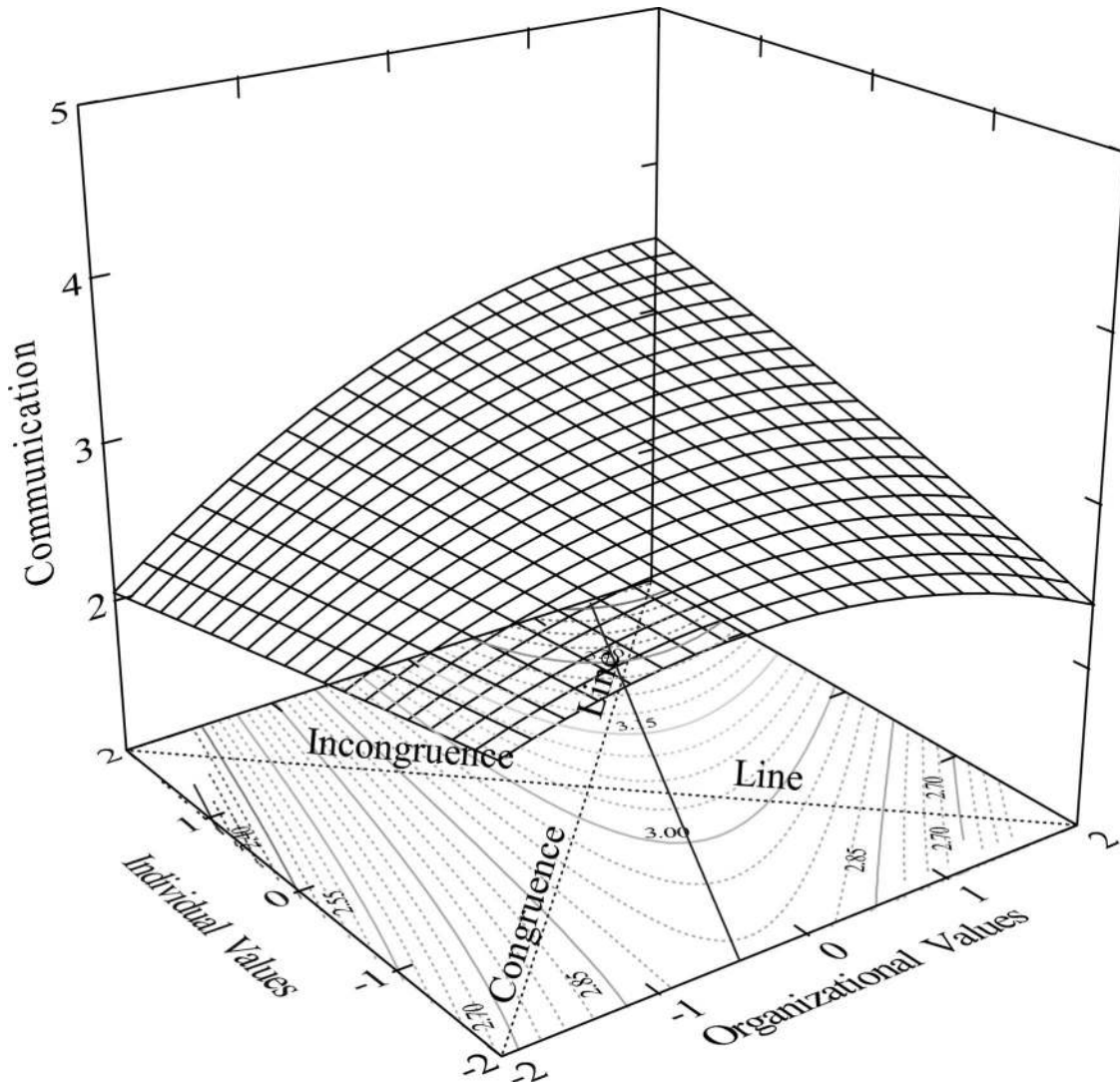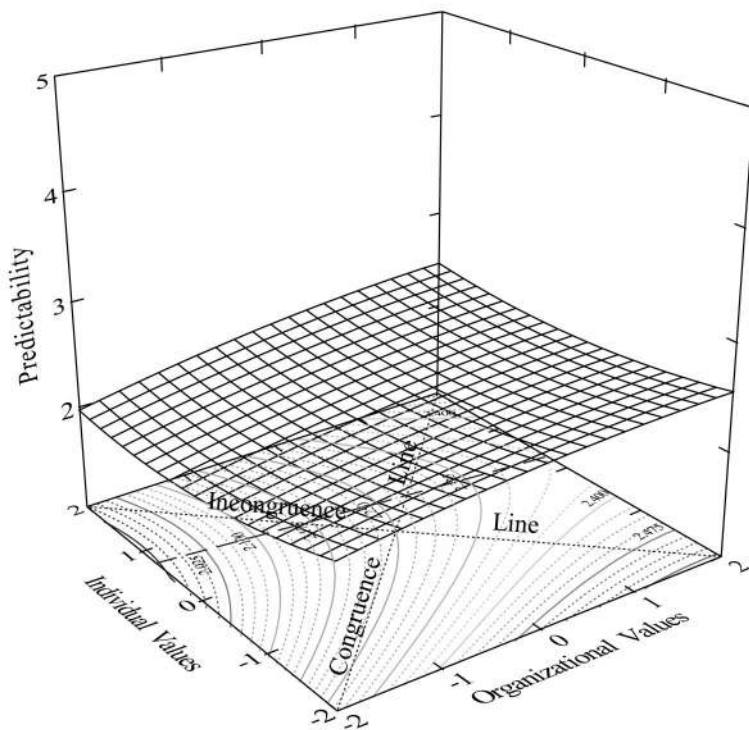
Figure 3. Surface relating individual and organizational values to communication. This surface represents the direct effect of individual and organizational values on communication, which corresponds to the Hypothesis 1 path in Figure 1. We plotted the surface using coefficients averaged across the eight value dimensions.

Hypotheses 4b, 4c, and 4d stated that communication, predictability, and attraction would be positively related to trust. All three of these hypotheses were supported, as indicated by the results reported in the upper section of Table 2. When these paths were combined with the paths linking the mediators to one another and to individual and organizational values, the total effect relating values to trust was obtained. This effect was significant for all eight value dimensions, as shown in the lower section of Table 2. For all eight value dimensions, these total effects met the first condition for congruence, and for altruism and pay, the second condition was also met. Surfaces for the total effects were similar to those for the direct effects, as illustrated by the surface in Figure 6b, indicating that trust peaks at the point of value congruence when individual and organizational values are high, and that trust increases as individual and organizational values both increase.

Tests of Hypotheses Relating Mediators to Outcomes

Results for hypotheses relating the mediators to the outcomes and the outcomes to one another are reported in Table 4. Hypotheses 5a, 5b, 5c, and 5d predicted that communication, predictability, attraction, and trust would be positively related to job satisfaction. As shown in the upper section of Table 4, the paths linking the four mediators directly to job satisfaction were positive and significant for communication, attraction, and trust, but not for predictability. Thus, Hypotheses 5a, 5c, and 5d were supported. Taking into account the paths relating the mediators to one another yields the total effects reported in the lower section of Table 4. Again, these results indicate that job satisfaction was positively related to communication, attraction, and trust, but not predictability, even when the indirect effects relating predictability to job satisfaction were considered.

a   Direct effect of individual and organizational values on predictability.

b   Total effect of individual and organizational values on predictability.
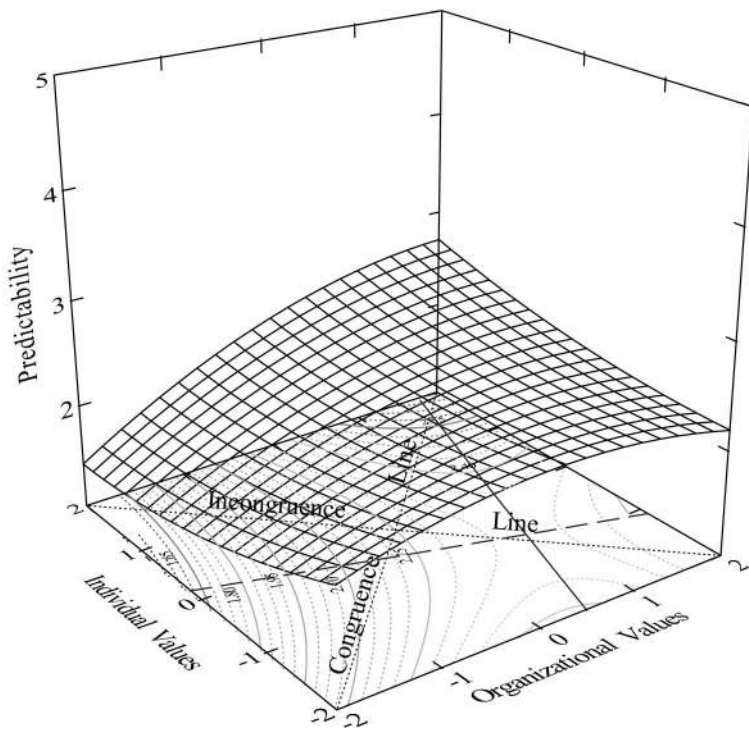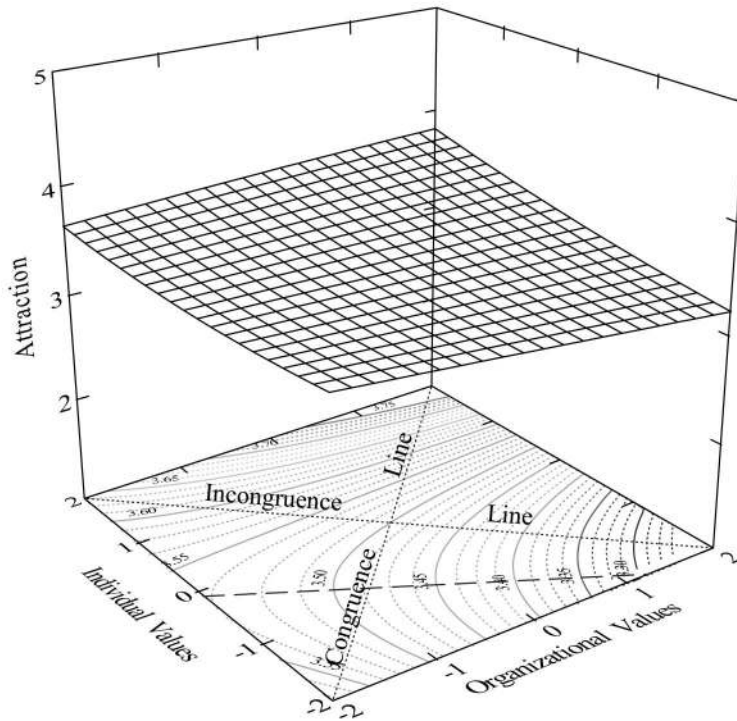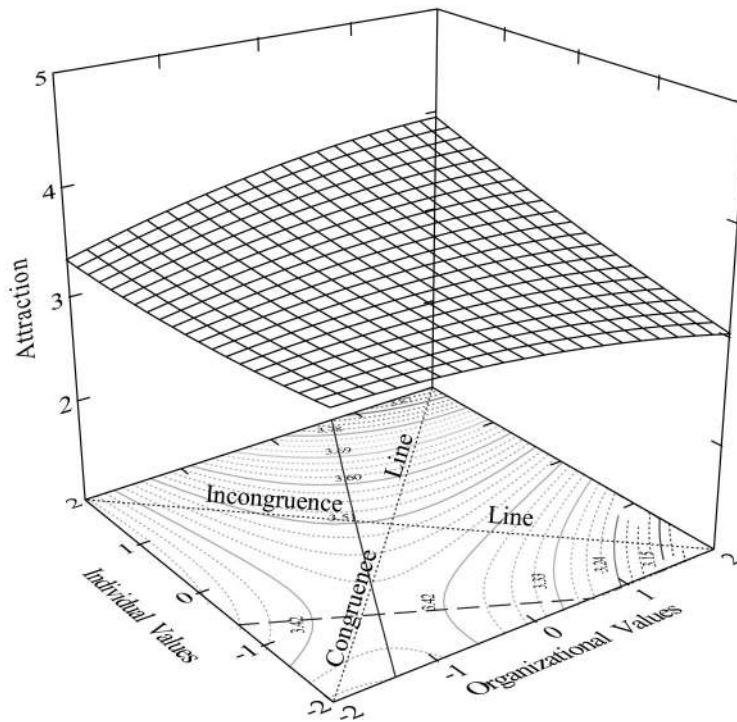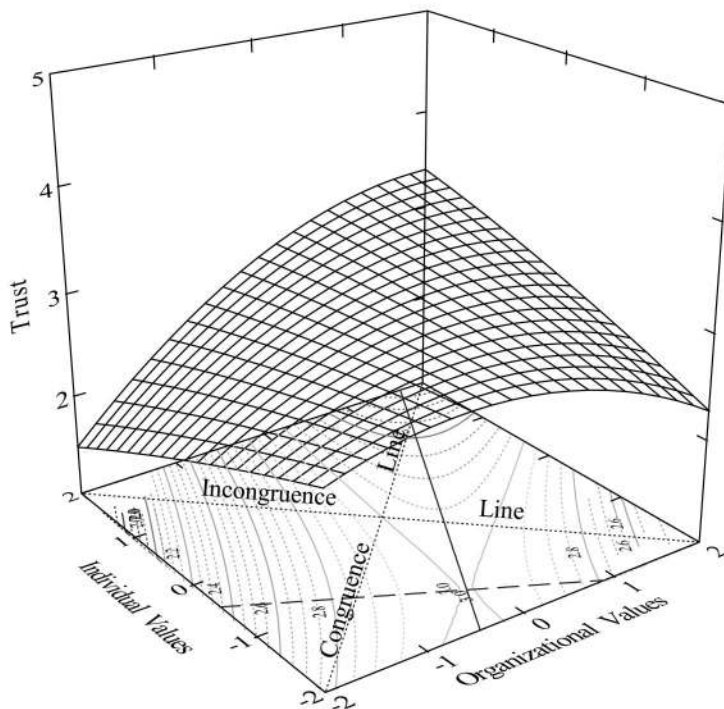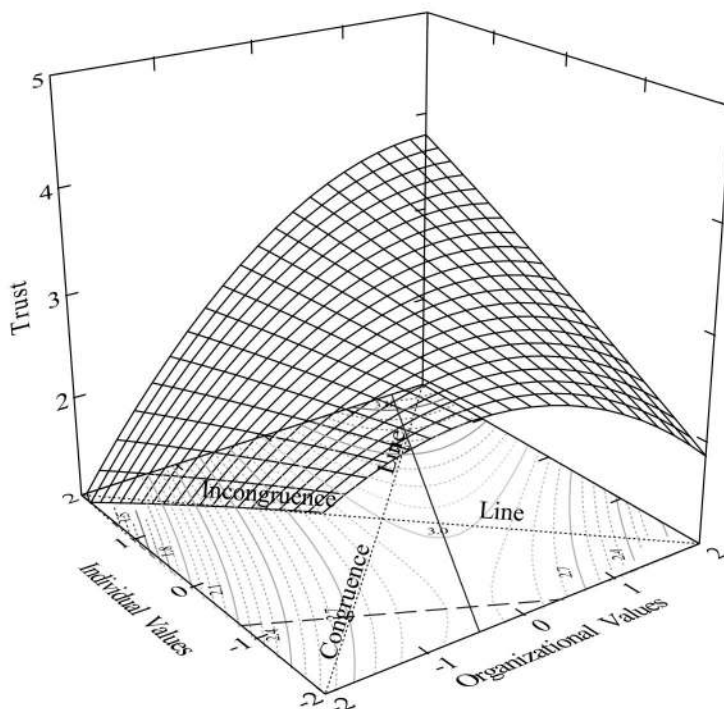

Figure 4.   Surfaces relating individual and organizational values to predictability. The surface in Figure 4a corresponds to the H2a path in Figure 1, and the surface in Figure 4b corresponds to the H2a path plus the product of the H1 and H2b paths in Figure 1. We plotted the surfaces using coefficients averaged across the eight value dimensions. H = Hypothesis.

a Direct effect of individual and organizational values on attraction.

b Total effect of individual and organizational values on attraction.

Figure 5. Surfaces relating individual and organizational values to attraction. The surface in Figure 5a corresponds to the H3a path in Figure 1, and the surface in Figure 5b corresponds to the H3a path plus the product of the H1 and H3b paths; the product of the H2a and H3c paths; and the product of the H1, H2b, and H3c paths in Figure 1. We plotted the surfaces using coefficients averaged across the eight value dimensions. H = Hypothesis.

a Direct effect of individual and organizational values on trust.

b Total effect of individual and organizational values on trust.

Figure 6. Surfaces relating individual and organizational values to trust. The surface in Figure 6a corresponds to the H4a path in Figure 1, and the surface in Figure 6b corresponds to the H4a path plus the product of the H1 and H4b paths; the product of the H2a and H4c paths; the product of the H3a and H4d paths; the product of the H1, H2b, and H4c paths; the product of the H1, H3b, and H4d paths; the product of the H2a, H3c, and H4d paths; and the product of the H1, H2b, H3c, and H4d paths (as shown in Figure 1). We plotted the surfaces using coefficients averaged across the eight value dimensions. H = Hypothesis.

Hypotheses 6a, 6b, 6c, and 6d stated that communication, predictability, attraction, and trust would be positively related to organizational identification. Results in the upper section of Table 4 show that the paths directly relating attraction and trust to organizational identification are positive and significant, lending support to Hypotheses 6c and 6d. When the direct effects of the mediators were combined with the paths relating the mediators to one another, the total effect for communication became significant, and the total effect for predictability was significant for six of the eight value dimensions, as shown in the lower section of Table 4. These total effects emerged because of the paths relating communication and predictability to attraction and trust, both of which were related to organizational identification. Thus, all four mediators were related to organizational identification, although the relationships for communication and predictability were limited to indirect effects transmitted by relationships among the mediators.

Hypotheses 7a and 7b posited that job satisfaction and organizational identification would be positively related to intent to stay. Both of these hypotheses were supported across the eight value dimensions, as evidenced by results given in the upper section of Table 4. For the sake of completeness, the total effects of job satisfaction and organizational identification on intent to stay are reported in the lower section of Table 4. These total effects equal the direct effects shown in the upper section, given that the effects of job satisfaction and organizational identification on intent to stay are limited to direct effects, as can be seen in the model in Figure 1.

Integration of Results

We now step back from the individual hypothesis tests to integrate our results in terms of the theoretical model that guided our study. To this end, we assembled the paths corresponding to the averaged coefficients to summarize the degree of support for each of the relationships in the model. This summary is captured by the model depicted in Figure 7. Tracing the paths in the model indicates that the effects of individual and organization values on

the outcomes are carried primarily by trust, followed by communication and attraction. Computations that yield the indirect effects carried by each mediator are given in Table 5, which includes the averaged coefficients in Figure 7 as well as coefficients for each of the eight value dimensions. As shown in Table 5, the sum of the indirect effects transmitted through trust is 2–3 times larger than those transmitted through communication and attraction. By comparison, the indirect effects carried by predictability are meager, reaching significance only for organizational identification. Moreover, the relationships for individual and organizational values demonstrate evidence of congruence effects, albeit limited, only for trust and, to some extent, communication. In summary, our results indicate that the value of value congruence is primarily the enhancement of communication and trust, with the caveat that the effects of values should be viewed in terms of congruence only when individual and organizational values are both high.

Tests of Omitted Effects

In our final analyses, we tested the direct effects omitted from the model to determine whether the linkages specified by the model adequately captured the relationships among the variables. These results indicate that when the mediator variables and need fulfillment were controlled, additional variance in job satisfaction was explained by individual and organizational values for five of the eight value dimensions. For organizational identification, additional variance was explained by individual and organizational values for six value dimensions. In contrast, individual and organizational values explained additional variance in intent to stay only for the value dimension of security, indicating that people who placed greater importance on security intended to stay in the organization. Finally, the effects of the mediators on intent to stay that bypassed job satisfaction and organizational identification were significant for predictability and trust, yielding a negative relationship for predictability and a positive relationship for trust. Comparing the magnitudes of the omitted effects with those in-
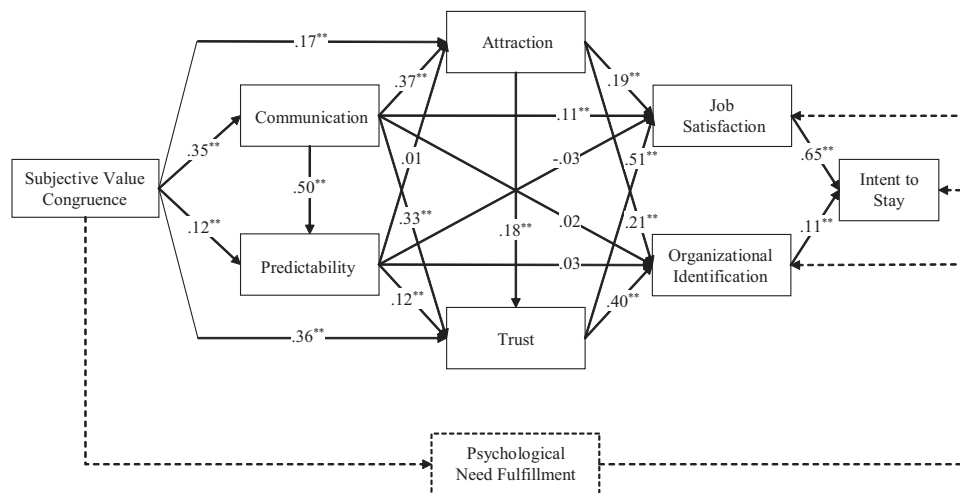

Figure 7. Summary of results for the proposed theoretical model. Path estimates are average effects, as reported in the far right columns of the upper portions of Tables 2 and 3. The dashed arrows indicate that the model intends to explain the effects of subjective value congruence on job satisfaction, organizational identification, and intent to stay above and beyond the effects of psychological need fulfillment.   ** $p < .01$.

Table 5
Total Effects of Individual and Organizational Values on Outcomes

Path type	Value dimension								
	Altruism	Relationships	Pay	Security	Authority	Prestige	Variety	Autonomy	Average
Effects transmitted through communication									
Values → Job satisfaction	0.13**	0.16**	0.14**	0.14**	0.16**	0.12**	0.12**	0.14**	0.14**
Values → Identification	0.09**	0.11**	0.10**	0.12**	0.12**	0.09**	0.09**	0.10**	0.10**
Values → Intent to stay	0.10**	0.12**	0.10**	0.10**	0.11**	0.09**	0.09**	0.10**	0.10**
Effects transmitted through predictability									
Values → Job satisfaction	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Values → Identification	0.02	0.02	0.03*	0.04*	0.03*	0.02*	0.02*	0.02	0.03*
Values → Intent to stay	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Effects transmitted through attraction									
Values → Job satisfaction	0.09**	0.18**	0.07**	0.07**	0.08**	0.07**	0.06**	0.07**	0.08**
Values → Identification	0.09**	0.14**	0.08**	0.08**	0.08**	0.07**	0.06**	0.08**	0.08**
Values → Intent to stay	0.07**	0.14**	0.06**	0.05**	0.06**	0.05**	0.04**	0.05**	0.06**
Effects transmitted through trust									
Values → Job satisfaction	0.29**	0.35**	0.26**	0.31**	0.28**	0.23**	0.27**	0.31**	0.29**
Values → Identification	0.22**	0.29**	0.20**	0.27**	0.22**	0.17**	0.20**	0.24**	0.23**
Values → Intent to stay	0.21**	0.27**	0.19**	0.23**	0.20**	0.17**	0.19**	0.23**	0.21**

Note. $N = 918$. Under the "Path type" column, the term "Values" refers to the five quadratic terms for subjective value congruence (i.e., organizational values, individual values, their squares, and their product). The reported paths are standardized coefficients estimated from block variables that involve the five quadratic terms for individual and organizational values (see text), the standardized regression coefficients relating the mediators to one another, and the standardized regression coefficients relating the mediators to the outcomes.
* $p < .05$.   ** $p < .01$.

cluded in our model indicated that although the omitted effects were relatively small, their existence suggests that other processes might help fully explain the effects of individual and organizational values on job satisfaction and organizational identification and the effects of predictability and trust on intent to stay.

As shown in Figure 1, the model that guided our analyses does not depict paths relating psychological need fulfillment to communication, predictability, attraction, and trust. However, these relationships were implicitly included as correlations when psychological need fulfillment was used along with communication, predictability, attraction, and trust as predictors of job satisfaction and organizational identification, as indicated by Equations 5 and 6. These correlations, which appear in Table 1, shed light on how psychological need fulfillment might operate along with the other mediators in our model. From a conceptual standpoint, we would expect the mediators examined in our study to relate to the organizational supplies involved in psychological need fulfillment, given that the mediators describe social and organizational aspects of work that relate to supplies employees receive from their jobs. The mediators are less likely to relate to psychological needs, which are personal standards held by employees. This reasoning is supported by the correlations in Table 1, which indicate that the average correlation between the mediators and organizational supplies was .31, whereas the average correlation between the mediators and psychological needs was .11. Among the organizational supplies, we would expect the highest correlations

for mediators that could serve as resources for the supply or refer to aspects of work that are similar to the supply. Consistent with this reasoning, the largest correlations for trust involve supplies pertaining to security, altruism, and prestige. Thus, employees who trusted the organization were likely to experience their work as secure, believe they work for an organization that considers the welfare of others, and garner respect by being associated with the organization. For attraction, the largest correlations involved supplies for relationships and prestige, which indicate that interpersonal attraction is associated with close ties and mutual respect between employees. The highest correlation for predictability involved supplies for security, indicating that employees believed they can anticipate their future in the organization when their jobs are secure. Finally, communication was strongly related to supplies for prestige and autonomy, suggesting that positions with status and control permit open communication with others. To a lesser extent, communication was also related to supplies for authority, which refers to clear reporting relationships, and supplies for security and altruism, such that organizations with open communication encourage employees to perceive their jobs as stable and their work as making contributions to society. Although our model does not treat these correlations as causal effects, they are relevant to understanding how the mediators examined in this study might operate in conjunction with psychological need fulfillment, the focal mediator in the study that motivated the present investigation (Cable & Edwards, 2004).

Discussion

Numerous studies have examined the relationship between value congruence and outcomes (Kristof, 1996; Kristof-Brown et al., 2005; Meglino & Ravlin, 1998; Verquer et al., 2003), and various explanations have been given for these relationships. Unfortunately, these explanations are scattered throughout the value congruence literature, and previous research has not assembled these explanations into an integrated theoretical model or tested the explanations empirically. In this study, we proposed and tested a model that frames communication, predictability, attraction, and trust as mechanisms that mediate the relationship between value congruence and outcomes. We tested the separate and combined effects of these mediators and determined whether the relationships carried by the mediators can be interpreted in terms of value congruence. Our results show that individual and organizational values have relationships with the mediators that vary in form and magnitude, and some mediators are much more viable than others as explanations of value congruence effects.

Theoretical Implications

The results of this study have several theoretical implications for value congruence research. First, among the various explanations of value congruence effects discussed in the literature, our study points to trust as the most viable explanation, followed by communication and attraction. In fact, our results show that the indirect effects transmitted through trust were 2–3 times larger than those transmitted through communication and attraction. Although trust has received limited attention in conceptual discussions of value congruence (Christiansen et al., 1997; Enz, 1988; Jehn & Mannix, 2001; Lau et al., 2007), the theoretical literature on trust often points to value congruence as an important element of trusting relationships (Elangovan & Shapiro, 1998; Jones & George, 1998; Mayer et al., 1995; McAllister, 1995; Sitkin & Roth, 1993; M. Williams, 2001). Thus, our results suggest that trust should play a more prominent role in value congruence research. In addition, our results for communication lend some support to the notion that the effects of value congruence can be attributed to the ease of communication among people with shared values (Erdogan & Bauer, 2005; Erdogan et al., 2004; Kalliath et al., 1999; Kemelgor, 1982; Meglino & Ravlin, 1998; Meglino et al., 1989, 1991; Posner et al., 1985; van Vianen et al., 2004). Our results also indicate that individual and organization values are related to attraction (Jehn, 1994; Kalliath et al., 1999; Meglino et al., 1991; O'Reilly et al., 1991; van Vianen et al., 2004), although the relationships we obtained were generally small and provided little evidence of value congruence effects per se, a point we later pursue in more detail.

Second, our results provide little support for predictability as an explanation of value congruence effects. Although individual and organizational values were related to predictability through communication, predictability exhibited weak relationships with attraction, trust, and the outcomes in our model. These findings question the premise that the effects of value congruence are attributable to the predictability afforded by shared values (Kalliath et al., 1999; Kluckhohn, 1951; Meglino & Ravlin, 1998; Meglino et al., 1989, 1991). Further examination of our results showed that predictability was related to certain organizational values, particularly those that referred to relationships, security, and authority. Perhaps organizations that emphasize these values create environments that reduce uncertainty and ambiguity, thereby providing employees with a sense of predictability. However, the congruence between these organizational values and the values of employees does not seem relevant to predictability.

Third, our findings indicate that the explanations embedded in our model work in conjunction with one another. For instance, our results suggest that one of the key reasons communication explains the effects of value congruence is that communication promotes trust (Korsgaard et al., 2002; Reilly & DiAngelo, 1990), which in turn enhances job satisfaction, organizational identification, and through these outcomes, intent to remain in the organization. Communication also appeared to foster interpersonal attraction (Kalliath et al., 1999; Meglino et al., 1991), which in turn was related to trust (McAllister, 1995; M. Williams, 2001) as well as job satisfaction and organizational identification. The interrelationships among the mediators in our model are essential to understanding the process by which value congruence relates to outcomes, which demonstrates the advantages of integrating the explanations of value congruence effects into a unified theoretical model.

A fourth theoretical implication of our study is that the joint relationships of individual and organizational values with the mediators in our model rarely conformed to the hypothetical value congruence effect shown in Figure 2. Surfaces relating values to trust and communication were curved downward along the incongruence line, but for most values, the ridge of the surface was rotated into the region where organizational values exceeded individual values. In addition, trust and communication were higher when individual and organizational values were both high than rather than low. In combination, these findings suggest that trust and communication are fostered when individual and organizational values match at high levels. For attraction, support for value congruence effects was more limited and restricted primarily to values that referred to autonomy and variety. These value dimensions both refer to intrinsic characteristics of jobs (Hackman & Oldham, 1980) and suggest that employees might develop positive relationships with coworkers when the importance employees place on design features of their jobs are aligned with the job design priorities of the organization. Nuances such as these are part of the broader conclusion that the joint effects of individual and organizational values generally deviated from the idealized value congruence effect assumed to exist in much value congruence research, and our study contributes to a growing body of research that bears on this fundamental point (Choi & Price, 2005; Finegan, 2000; Kalliath et al., 1999; Nyambegera et al., 2001; Ostroff et al., 2005; van Vianen et al., 2004; van Vuuren et al., 2007).

Finally, tests of the paths excluded from our model indicated that although the mediators in the model accounted for the bulk of the effects linking individual and organizational values to the outcomes, direct effects that bypass the mediators accounted for small but significant portions of variance in job satisfaction and organizational identification. These results suggest that additional mediators beyond those included in our model should be considered in future value congruence research. For instance, value congruence might reduce role ambiguity and role conflict, given that employees who hold priorities similar to those of the organi-

zation would seem better able to understand what the organization expects and subscribe to goals that are aligned with other organizational members (Kahn & Quinn, 1970; Kalliath et al., 1999; Meglino & Ravlin, 1998; Tsui & O'Reilly, 1989). We also found that trust was positively related to intent to stay, and, conversely, predictability was negatively related to intent to stay, after the effects of job satisfaction and organizational identification were taken into account. These direct effects of trust and predictability might operate through other mediators not examined here, and identifying these mediators would further clarify the mechanisms linking the variables in our model.

Managerial Implications

In addition to the theoretical implications of our results, our study offers several practical implications. Managers often attempt to promote value congruence to improve the attitudes and behaviors of employees. Thus, managers invest energy and resources assessing value congruence when hiring job applicants (Cable & Judge, 1997; Rynes & Gerhart, 1990) and engage in socialization tactics to modify the values of new employees in the direction of the cultural values of the organization (Cable & Parsons, 2001). Although value congruence should remain an important practical consideration, our results suggest that the potential benefits of value congruence might be obtained by implementing strategies that directly impact the key mediators of value congruence effects, as opposed to value congruence itself. For example, given that trust carried much of the relationship between value congruence and outcomes, managers might consider investing in initiatives that focus directly on increasing trust. Such initiatives could include clarifying reasons behind decisions made in the organization, holding frequent question-and-answer sessions between employees and senior management, and ensuring that performance management processes are fair (Mayer & Davis, 1999). Likewise, our results indicate that communication is partly responsible for value congruence effects. Accordingly, managers could achieve some of the benefits of value congruence by ensuring that organizational communication is regular, open, and consistent. Although the potential utility of these practical implications requires further research, it seems safe to suggest that managers might benefit from using strategies that directly target the mechanisms linking value congruence to outcomes, as opposed to focusing their efforts solely on individual and organizational values.

Limitations and Strengths

One potential limitation of this study is that our measures of communication and predictability were created for this study, and their construct validity has not been established in previous research. We created these measures because existing measures did not align with the conceptual logic underlying our theoretical model. Both of our measures appeared serviceable, in that they displayed high internal consistency reliabilities, demonstrated good fit with the data as part of a larger confirmatory factor model, and exhibited correlations with other measures that were consistent with the theoretical underpinnings of the measures. Nonetheless, it is possible that other measures would have provided stronger evidence as mediators of value congruence effects, especially for

predictability. Further research is needed to confirm our findings and determine whether they are specific to the particular measures used in our study.

Another limitation is that our study relied on self-report measures. Although such measures have shortcomings (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), they are appropriate for the theoretical model examined in our study, which concerns the psychological processes by which value congruence relates to outcomes (Crampton & Wagner, 1994; Spector, 1994). Nonetheless, it would be useful to supplement self-report measures, such as those used here, with measures collected from other sources, such as managers. Such measures could be used to examine the association between organizational values derived from consensual reports of managers and subjective organizational values as perceived by employees (Ostroff et al., 2005). However, measures collected from other sources should not be treated as substitutes for measures collected from employees themselves because, from a theoretical standpoint, the effects of value congruence on attitudes should be mediated by perceptions of organizational values as seen by the employees whose attitudes are under study (Endler & Magnussen, 1976; French et al., 1974; Kristof-Brown et al., 2005). These mediating effects could be examined by including measures of organizational values collected from sources other than employees, although the extent of these mediating effects would not invalidate research that focuses on subjective values as the proximal psychological input into value congruence.

A third limitation is that our study relied on a cross-sectional design. Although the causal flow depicted by our model is anchored in prior theory and research, some of the relationships in our model could run in directions other than those specified. For instance, although our model posits that communication enhances attraction, research suggests that attraction can also promote communication (Newcomb, 1956). Thus, our results should be interpreted not as evidence that the causal flow depicted by our model is correct but that the model is one viable representation of the causal relationships among the constructs we examine. Additional studies using longitudinal designs would help shed light on the various causal flows that might explain how individual and organization values relate to the mediators and outcomes in our model.

Finally, the conclusions of our study are restricted to the constructs in our model. As noted earlier, the effects of value congruence might be explained more fully by considering additional mediators, such as role ambiguity and role conflict (Kahn & Quinn, 1970). In addition, our model focused on attitudinal rather than behavioral outcomes, and future research should examine whether our results apply to job performance, absenteeism, turnover, and other behaviors of interest in value congruence research (Kristof-Brown et al., 2005).

Despite these limitations, our study has several strengths worth noting. Perhaps most important, our study is the first to develop and test an integrative theoretical model that attempts to explain the process by which value congruence relates to outcomes. Thus, we exposed what had been speculative arguments to empirical examination and, for predictability, refutation. In addition, by examining the explanations collectively, we demonstrated how the explanations work together to account for value congruence effects. This process would be missed by studies that examined each mediator separately. In this manner, we have opened what has been an empirical black box in value

congruence research (cf. Lawrence, 1997), which could initiate a promising stream of research into the processes that underlie value congruence effects.

In this study, we also traced the relationships linking individual and organization values using techniques derived from path analysis (Alwin & Hauser, 1975; Pedhazur, 1982). In this manner, we were able to distinguish relationships attributable directly to individual and organizational values from those transmitted through each of the mediators in our model. This analytical approach allowed us to pinpoint the mechanisms by which individual and organizational values related to the mediators and how the mediators relate to one another and the outcomes. This approach also provided a summary of the effects carried by each mediator, which allowed us to detect which mediators best explain the value of value congruence.

We also used polynomial regression and response surface analysis to determine whether the relationships of individual and organizational values with the other variables in our model can be interpreted as value congruence effects (Edwards, 1994, 2002; Edwards & Parry, 1993). These analyses revealed conceptually meaningful results that would be concealed by other methods commonly used in value congruence research, such as analyses involving difference scores and profile similarity indices (Kristof-Brown et al., 2005; Verquer et al., 2003). Given the numerous surfaces associated with our results, we summarized the degree of support for value congruence by applying rules of evidence for value congruence effects (Edwards, 2007). This study is the first empirical application of these rules, and they hold promise for directing the attention of researchers to the most essential information for evaluating congruence effects.

Conclusion

As research on the effects of value congruence continues to accumulate (Kristof-Brown et al., 2005; Verquer et al., 2003), it is essential to address the theoretical explanations that purport to account for value congruence effects. In this study, we critically reviewed explanations drawn from the value congruence literature, combined these explanations into an integrated theoretical model, and tested the model using a large sample of employees representing a broad range of job types and levels. Our results point to trust as a key explanation of value congruence effects, followed by communication, and, to a lesser extent, attraction. In contrast, our study provides little support for predictability as a mechanism linking value congruence to outcomes. Future research should address these and other processes by which individual and organizational values combine to influence outcomes, thereby shedding further light on the value of value congruence.

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