

The Phenomenology of Fit: Linking the Person and Environment to the Subjective Experience of Person–Environment Fit

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The authors distinguished 3 approaches to the study of perceived person–environment fit (P-E fit): (a) *atomistic*, which examines perceptions of the person and environment as separate entities; (b) *molecular*, which concerns the perceived comparison between the person and environment; and (c) *molar*, which focuses on the perceived similarity, match, or fit between the person and environment. Distinctions among these approaches have fundamental implications for theory, measurement, and the subjective experience of P-E fit, yet research has treated these approaches as interchangeable. This study investigated the meaning and relationships among the atomistic, molecular, and molar approaches to fit and examined factors that influence the strength of these relationships. Results showed that the relationships among the approaches deviate markedly from the theoretical logic that links them together. Supplemental analyses indicated that molar fit overlaps with affect and molecular fit gives different weight to atomistic person and environment information depending on how the comparison is framed. These findings challenge fundamental assumptions underlying P-E fit theories and have important implications for future research.

Keywords: person–environment fit, perceived fit, subjective fit, phenomenology, cognition

The concept of person–environment fit (P-E fit) is central to research in organizational behavior, organizational psychology, and human resource management (Dawis & Lofquist, 1984; Edwards, Caplan, & Harrison, 1998; Holland, 1997; Kristof, 1996; Walsh, Craik, & Price, 2000). P-E fit has been examined in reference to various person and environment constructs, such as employee needs and work-related rewards (Dawis, 1992; Edwards & Harrison, 1993; Rice, McFarlin, & Bennett, 1989), employee abilities and job demands (Caldwell & O'Reilly, 1990; Kristof-Brown, 2000; Westman & Eden, 1992), personal and organizational values (Adkins, Ravlin, & Meglino, 1996; Cable & Judge, 1996, 1997; Judge & Bretz, 1992), and the personality of the employee and other members of the organization (Schneider, 1987). Studies suggest that P-E fit is related to recruitment and selection decisions, occupational choice, job satisfaction, performance, organization commitment, turnover, and psychological and

physical well-being (Edwards, 1991; Judge & Kristof-Brown, 2004; Kristof, 1996; Spokane, Meir, & Catalano, 2000; Verquer, Beehr, & Wagner, 2003; Werbel & Gilliland, 1999).

Although numerous studies have examined the causes and outcomes of P-E fit, little is known about how people combine beliefs about themselves and their environment into perceptions of P-E fit. At first blush, the linkages relating perceptions of the person, the environment, and P-E fit might seem tautological, given that P-E fit is *defined* as the match between the person and environment (Chatman, 1989; French, Caplan, & Harrison, 1982; Kristof, 1996; Muchinsky & Monahan, 1987). However, these linkages might not be so straightforward within the mind of the person. For instance, when people consider whether their pay exceeds or falls short of the amount they want (Hollenbeck, 1989; Locke, 1969; Sweeney, McFarlin, & Inderrieden, 1990), do they compute a subjective difference between their perceived and desired pay? When people say their abilities exceed the requirements of their job (Bolino & Feldman, 2000; Johnson & Johnson, 2000), do they mentally subtract perceptions of their abilities and job demands? When people say their values fit those of the organization (Adkins, Russell, & Werbel, 1994; Lovelace & Rosen, 1996; Miceli & Near, 1994), do they mean their values and those of the organization are perceived as equal? When supervisors say they are similar to subordinates (Turban & Jones, 1988; Zalesny & Highhouse, 1992), do they mentally compare themselves with their subordinates and report the result of that comparison? These questions strike at the very meaning of P-E fit and how people experience it, yet calls for research that would address these questions have gone unanswered (Kristof, 1996; Meglino & Ravlin, 1998).

Research that examines the process relating perceptions of the person and environment to perceived P-E fit would make several important contributions. First, P-E fit is typically viewed as a psychological phenomenon, such that the effects of P-E fit require that the person is aware of his or her fit with the environment

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(Cable & Judge, 1996; Dawis & Lofquist, 1984; Edwards et al., 1998; Kristof, 1996; Verquer et al., 2003). Theoretically, the awareness of P-E fit is based on the perceived person and environment, which are cognitively compared to determine perceived P-E fit (French et al., 1982). This comparison process lies at the core of psychological theories of P-E fit but has not been examined in P-E fit research. Second, studies of P-E fit are generally treated as investigations of the same phenomenon regardless of whether they assess perceived P-E fit directly or combine separate measures of the perceived person and environment (Kristof, 1996). Some researchers have speculated that these different approaches to measuring P-E fit might tap into different psychological phenomena (Judge & Cable, 1997; Kristof, 1996; Meglino & Ravlin, 1998). Evidence bearing on this issue would help researchers select measures of P-E fit and indicate whether findings from studies using different measures should be combined. Third, studying the psychological processes underlying perceived P-E fit opens new avenues for research. Perceived P-E fit is essentially a judgment of the similarity between the person and environment (Cable & DeRue, 2002). As such, the study of perceived P-E fit can draw from research on comparative judgments (Chambers & Windschitl, 2004; Medin, Goldstone, & Gentner, 1993; Mussweiler, 2003; Tversky, 1977), which would expand and enrich P-E fit research.

This study investigates the relationships among perceptions of the person, the environment, and P-E fit. We examine two forms of perceived P-E fit, one that refers to the perceived similarity between the person and environment (Cable & DeRue, 2002; Kristof-Brown, 2000; Saks & Ashforth, 1997) and another that involves the perceived discrepancy between the person and environment, indicating whether one is greater than or less than the other (Cleveland & Shore, 1992; Locke, 1969; Rice et al., 1989). We empirically examine how these forms of perceived P-E fit relate to one another and to perceptions of the person and environment. We also test factors predicted to influence the strength of these relationships, drawing from research on comparative judgments. Our findings challenge the notion that perceived P-E fit is a systematic combination of the perceived person and environment, as suggested by theories of P-E fit. Rather, perceived P-E fit is susceptible to various cognitive and methodological factors and may carry surplus meaning beyond the perceived person and environment. These findings have broad implications for the conceptualization and measurement of P-E fit and for understanding

how it is subjectively experienced by those we study in P-E fit research.

Approaches to the Study of P-E Fit

The relationships linking the perceived person and environment to perceived P-E fit can be understood by distinguishing three basic approaches to the study of P-E fit. These approaches are widely used in P-E fit research and tap into different aspects of the psychological process linking the perceived person and environment to perceived P-E fit. The *atomistic* approach is used by studies that measure the perceived person and environment separately and combine them in some fashion to represent the concept of P-E fit (Cable & Judge, 1996; Edwards, 1996; French et al., 1982). The *molecular* approach refers to studies that directly assess the perceived discrepancy between the person and environment, such as whether work rewards exceed or fall short of the person's needs (Lance, Mallard, & Michalos, 1995; Rice et al., 1989) or job demands are greater than or less than the person's abilities (Beehr, Walsh, & Taber, 1976; Rizzo, House, & Lirtzman, 1970). The *molar* approach involves studies that directly measure the perceived fit, match, or similarity between the person and environment, as in studies that ask respondents to rate the fit between themselves and their organization (Cable & DeRue, 2002; Judge & Cable, 1997; Saks & Ashforth, 1997). The terms atomistic, molecular, and molar designate a progression from reductionist to gestalt approaches (Dawda & Martin, 2001) to the study of P-E fit, such that atomistic studies assess the perceived person and environment separately, molecular studies assess subjective P-E discrepancies that combine the person and environment but preserve the direction of their difference, and molar studies assess perceptions of P-E fit that combine the person and environment and disregard the direction of their difference, treating positive and negative discrepancies as equivalent in terms of P-E misfit.

Figure 1 depicts the atomistic, molecular, and molar approaches within the broader context of P-E fit research. The approaches are located inside the box labeled the phenomenology of P-E fit, which refers to the subjective experience of the person, the environment, P-E discrepancies, and P-E fit. The arrows connecting the approaches represent the theoretical logic by which the perceived person and environment are combined into perceived discrepancies and perceived fit and by which perceived discrepancies are linked to perceived fit. To the left of the box are the objective

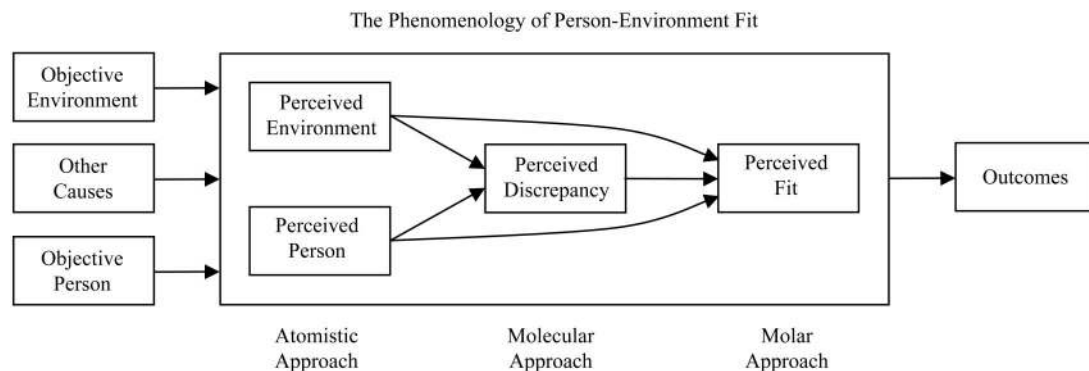


Figure 1. The phenomenology of person-environment fit.

person, the objective environment, and other causes of constructs within the phenomenology of P-E fit, and to the right are outcomes such as satisfaction, commitment, performance, well-being, and other criteria of interest in P-E fit research.

To clarify the meaning and distinctions among the atomistic, molecular, and molar approaches, we provide examples of each approach from P-E fit research. We organize this discussion in terms of needs–supplies fit, demands–abilities fit, and supplementary fit, which represent three dominant streams of P-E fit research (Kristof, 1996). *Needs–supplies fit* refers to the comparison between the psychological needs (i.e., desires, values, goals) of the person and the environmental supplies that serve as rewards for needs. *Demands–abilities fit* involves the comparison of the demands of the environment to the abilities (i.e., knowledge, skills, energy) of the person. Needs–supplies fit and demands–abilities fit are two forms of complementary fit (Kristof, 1996; Muchinsky & Monahan, 1987) and capture the degree to which the person and environment each provides what the other requires (Dawis & Lofquist, 1984; Edwards, 1991; French et al., 1982; Wanous, 1992). *Supplementary fit* refers to the similarity between the person and the environment, where the environment refers to other people individually or collectively in groups, organizations, or vocations (Muchinsky & Monahan, 1987). For these three types of P-E fit, we identify examples of the atomistic, molecular, and molar approaches, anchored by direct quotes from published work (see Table 1).

Needs–Supplies Fit

The atomistic, molecular, and molar approaches are evident in studies of needs–supplies fit. The atomistic approach is demonstrated by studies that assess needs and supplies separately by asking respondents to describe perceived and desired amounts of characteristics of the job or organization (Bretz & Judge, 1994; Edwards, 1996; Edwards & Rothbard, 1999; French et al., 1982; Porter & Lawler, 1968; Rice et al., 1989; Rice, Phillips, & McFarlin, 1990; Sweeney et al., 1990; Wanous & Lawler, 1972). Studies adopting the molecular approach have assessed perceived discrepancies between needs and supplies by asking respondents whether they have more or less than they want (French, Rodgers, & Cobb, 1974; Greenhaus, Siedel, & Marinis, 1983; Hollenbeck, 1989; Lance et al., 1995; Mallard, Lance, & Michalos, 1997; Rice et al., 1989) or want more or less than they have (Alderfer, 1969; Feldman, Leana, & Bolino, 2002; Greenberg, 1989; McFarlin, Coster, Rice, & Cooper, 1995; McFarlin & Rice, 1992; Rice, Peirce, Moyer, & McFarlin, 1991; Tziner & Falbe, 1990) of various job characteristics. The molar approach underlies studies in which respondents report how well their job meets or fulfills their needs (Barnett, Gareis, & Brennan, 1999; George & Jones, 1996; Riordan, Weatherly, Vandenberg, & Self, 2001; Saks & Ashforth, 1997), how well their needs are met or fulfilled by their job (Brkich, Jeffs, & Carless, 2002; Cable & DeRue, 2002; Werbel & Landau, 1996), or the degree of fit between what the respondent wants and what the job provides (Cable & DeRue, 2002).

Demands–Abilities Fit

Studies of demands–abilities fit have also relied on the atomistic, molecular, and molar approaches. The atomistic approach has been adopted by studies that assess demands and abilities sepa-

ately to investigate demands–abilities fit in relation to stress (Edwards, 1996; French et al., 1982; Westman, 1990; Westman & Eden, 1992, 1996), satisfaction (Drexler & Lindell, 1981; Livingstone, Nelson, & Barr, 1997; Rosman & Burke, 1980), and performance (Caldwell & O'Reilly, 1990). The molecular approach underlies studies of role overload that ask respondents the extent to which the demands of the job exceed their capabilities (Beehr et al., 1976; Chisholm, Kasl, & Eskenazi, 1983; Netemeyer, Burton, & Johnston, 1995) or their capabilities are insufficient for the job (Schaubroeck, Cotton, & Jennings, 1989; Sutton & Rafaeli, 1987). The molecular approach has also been used in studies of underemployment that ask respondents the extent to which their education, skills, and experience exceed the requirements of the job (Bolino & Feldman, 2000; Johnson & Johnson, 1996; Khan & Morrow, 1991). The molar approach is evidenced by studies in which respondents describe the extent to which their knowledge, skills, and abilities match the demands or requirements of the job (Brkich et al., 2002; Cable & DeRue, 2002; Cable & Judge, 1996; Higgins & Judge, 2004; Kristof-Brown, 2000; Lauver & Kristof-Brown, 2001; Saks & Ashforth, 1997; Werbel & Landau, 1996).

Supplementary Fit

Studies of supplementary fit have examined similarity on various dimensions, such as values, personality, and demographics. These studies can also be classified according to the atomistic, molecular, and molar approaches. For instance, atomistic studies of value congruence ask respondents to describe their own values and the values of their organization and combined these measures to gauge the fit between personal and organizational values (Bretz & Judge, 1994; Cable & Judge, 1996; Judge & Bretz, 1992). Molar studies of value congruence have used measures of the perceived fit (Cable & DeRue, 2002; Cable & Judge, 1996), similarity (Posner, Kouzes, & Schmidt, 1985; Saks & Ashforth, 1997), or compatibility (Mitchell, Holtom, Lee, Sablinski, & Erez, 2001; Posner & Schmidt, 1993) between the values of the person and organization. Studies of personality similarity have implemented the atomistic, molecular, and molar approaches by separately assessing the person and other members of the organization (Antonioni & Park, 2001; Bauer & Green, 1996; Schaubroeck & Lam, 2002), soliciting comparisons of the person relative to others (Strauss, Barrick, & Connerley, 2001), and examining the perceived fit or match between the person and others (Judge & Cable, 1997; Saks & Ashforth, 1997). Likewise, studies of demographic similarity have measured demographic attributes of the person and other organizational members separately (Graves & Powell, 1995; Turban & Jones, 1988; Wayne & Liden, 1995), gathered direct comparisons of the person relative to others, such as whether the person is younger or older than members of his or her work group (Cleveland & Shore, 1992), and measured perceived similarity on demographic attributes (Kirchmeyer, 1995). The molar approach is also evidenced by studies that assess perceived similarity in a general sense without specifying dimensions of comparison (Colarelli & Boos, 1992; Ensher & Murphy, 1997; Graves & Powell, 1995; Liden, Wayne, & Stilwell, 1993; Pulakos & Wexley, 1983; Turban & Jones, 1988; Wayne & Liden, 1995; Zalesny & Highhouse, 1992).

Table 1
Examples of the Atomistic, Molecular, and Molar Approaches in Person-Environment Fit Research

Atomistic approach	Molecular approach	Molar approach
<p>"This organization pays on the basis of individual performance. . . . I believe people should be paid on the basis of individual performance" (Bretz & Judge, 1994, p. 38).</p> <p>"How much of the characteristic is there now connected with your management position? . . . How much of the characteristic do you think should be connected with your management position?" (Porter & Lawler, 1968, p. 190).</p> <p>"Respondents used the following 5-point scale to report the amount of each facet they were currently experiencing: 1 (<i>none</i>), 2 (<i>very little</i>), 3 (<i>a moderate amount</i>), 4 (<i>very much</i>), and 5 (<i>an extraordinary amount</i>) . . . the same 5-point adjective scale . . . was used to assess wanted amounts" (Rice et al., 1989, p. 593).</p>	<p>Needs-supplies fit</p> <p>"Compared to the amount you have now, how much of each of the environmental features below do you believe you should have to be equitably paid? Scale values ranged from 1, much less, to 15, much more, with the midpoint labeled 'same amount' " (Greenberg, 1989, p. 178).</p> <p>"The amount of pay I presently receive is less than it should be" (Hollenbeck, 1989, p. 416).</p> <p>"Questions asked respondents to compare their current situation with what they wanted. . . . the five response alternatives were -2 (<i>want much more</i>), -1 (<i>want somewhat more</i>), 0 (<i>want no more or less</i>), +1 (<i>want somewhat less</i>), +2 (<i>want much less</i>)" (Rice et al., 1989, p. 593).</p>	<p>"We developed a nine-item fit measure asking respondents to assess on a 7-point scale. . . how well the number and distribution of their work hours and the flexibility of their work schedule met their needs" (Barnett et al., 1999, p. 312).</p> <p>"I feel that my goals and needs are met by this job" (Brkich et al., 2002, p. 46).</p> <p>"There is a good fit between what my job offers me and what I am looking for in a job" (Cable & DeRue, 2002, p. 879).</p> <p>"To what extent does the job fulfill your needs?" (Saks & Ashforth, 1997, p. 406).</p>
<p>"I measured demands and abilities by first asking the level of skill required for each task and then asking the respondent to assess his or her own skill regarding the task" (Edwards, 1996, p. 310).</p> <p>"What level of formal education do you feel is needed by a person in a job such as yours? . . . How much schooling have you had?" (French et al., 1982, p. 20).</p> <p>"Both demand and ability were measured on a 7-point scale ranging from 'minimum' to 'maximum'. Cadets rated demand and their ability to meet this demand relating to a specific event" (Westman & Eden, 1992, p. 522).</p>	<p>Demands-abilities fit</p> <p>"It often seems like I have too much work for one person to do" (Beehr et al., 1976, p. 42).</p> <p>"I have more formal education than this assignment requires" (Bolino & Feldman, 2000, p. 909).</p> <p>"Job demands required more training or knowledge than you had" (Chisholm et al., 1983, p. 394).</p> <p>"My work experience is more than necessary to do my present job" (Johnson & Johnson, 1996, p. 438).</p> <p>"I have more obligations than I can handle during the time that is available" (Netemeyer et al., 1995, p. 81).</p>	<p>"My abilities and training are a good fit with the requirements of my job" (Cable & DeRue, 2002, p. 879).</p> <p>"To what degree do you believe your skills and abilities 'match' those required by the job?" (Cable & Judge, 1996, p. 299).</p> <p>"To what extent does this applicant fit the demands of the job?" (Kristof-Brown, 2000, p. 660).</p> <p>"My abilities fit the demands of this job. . . . There is a good match between the requirements of this job and my skills" (Lauver & Kristof-Brown, 2001, p. 460).</p> <p>"To what extent do your knowledge, skills, and abilities match the requirements of the job?" (Saks & Ashforth, 1997, p. 406).</p>
<p>"The item 'fairness is an important consideration in organizational activities' on the organizational questionnaire coincided with the item 'fairness is an important consideration to me' on the individual questionnaire" (Bretz & Judge, 1994, p. 38).</p> <p>"The survey asked recruiters to provide personal demographic information. . . . Recruiters also provided demographic information about applicants" (Graves & Powell, 1996, p. 247).</p> <p>"To examine personality similarity to peers, we contrasted each candidate's composite personality score . . . with the corresponding index for each work unit" (Schaubroeck & Lam, 2002, p. 1127).</p>	<p>Supplementary fit</p> <p>"Perceived relative age was measured with one item that required subjects to indicate whether, compared with members of their own work group, they would describe themselves as younger or older" (Cleveland & Shore, 1992, p. 473).</p> <p>"Supervisors and peers rated how similar they perceived themselves to be to the subject on each of the personality traits. . . . raters were instructed to rate themselves on a scale from 'Less' to 'Same', to 'More'" (Strauss et al., 2001, p. 643).</p>	<p>"To what degree do you feel your values 'match' or fit this organization and the current employees in this organization?" (Cable & Judge, 1996, p. 299).</p> <p>"All in all, the individuals in my workgroup are similar to me" (Colarelli & Boos, 1992, p. 192).</p> <p>"To what degree do your values, goals, and personality 'match' or fit this organization and the current employees in this organization?" (Judge & Cable, 1997, p. 374).</p> <p>"My values are compatible with the organization's values" (Mitchell et al., 2001, p. 1121).</p> <p>"My subordinate and I are similar kinds of people" (Pulakos & Wexley, 1983, p. 133).</p> <p>"To what extent are the values of the organization similar to your own values?" (Saks & Ashforth, 1997, p. 406).</p> <p>"Subordinates rated the extent to which 'My supervisor and I see things in much the same way' and 'are alike in a number of areas'" (Turban & Jones, 1988, p. 229).</p>

Theoretical Linkages Among the Approaches

Figure 1 depicts the general structure of the relationships among the atomistic, molecular, and molar approaches to P-E fit. We now describe these relationships in greater detail using theoretical equations that capture the conceptual logic linking the approaches. We first consider the relationship between the atomistic and molecular approaches. From a conceptual standpoint, the subjective comparison of the molecular approach represents the algebraic difference between the perceived person and environment elements of the atomistic approach. This logic is represented by the following theoretical equation:

$$D = E - P, \quad (1)$$

in which E is the perceived environment, P is the perceived person, and D is the perceived discrepancy between the environment and person. Conceptually, Equation 1 indicates that the perceived discrepancy between the person and environment is zero when the perceived person and environment are equal and is positive or negative depending on whether the perceived environment is greater than or less than the perceived person, respectively.

Applying similar logic, the P-E fit judgment of the molar approach signifies the absolute value of the perceived discrepancy of the molecular approach. This logic is shown by the following theoretical equation:

$$F = c - |D|, \quad (2)$$

in which F is perceived P-E fit and c is a constant representing the theoretical maximum of F . Equation 2 indicates that perceived P-E fit relates to the perceived discrepancy between the person and environment such that (a) perceived fit is greatest when the perceived discrepancy between the person and environment is zero, and (b) perceived fit decreases as the perceived discrepancy between the person and environment increases in either direction.

The theoretical logic expressed by Equations 1 and 2 can be integrated to show that perceived fit of the molar approach corresponds to the absolute difference between the perceived person and environment elements of the atomistic approach. This correspondence is seen by substituting Equation 1 into Equation 2, which yields:

$$F = c - |E - P|. \quad (3)$$

Conceptually, Equation 3 captures two propositions: (a) perceived fit is greatest when the perceived person and environment are equal; and (b) perceived fit decreases as the difference between the perceived person and environment increases in either direction.

The linkages among the atomistic, molecular, and molar approaches have been taken for granted in P-E fit research. For instance, researchers have stated that measures based on different approaches reflect the same concept. Judge and Cable (1997) indicated that, although atomistic and molar measures of person-organization fit may differ due to cognitive and motivational biases, they "are meant to assess the same basic construct ('true' person-organization fit)" (p. 368). Likewise, Kristof (1996) observed that person-organization fit studies using measures that represent different approaches "are discussed as investigations of the same construct" (p. 33). Verquer et al. (2003) also stated that atomistic and molar measures of person-organization fit are "different ways of measuring the same construct" (p. 475). In a similar

vein, Locke and Latham (1990) stated that measures of needs-supplies fit that represent the atomistic and molecular approaches "are conceptually (even if not psychometrically) equivalent" and that the choice between the measures "is really more of a psychometric than a conceptual issue" (p. 231).

The linkages among the atomistic, molecular, and molar approaches are also taken for granted by studies that substitute measures representing different approaches for one another. For example, researchers have claimed that problems with difference scores computed from atomistic person and environment measures can be avoided by using molecular measures of perceived P-E discrepancies (Ashforth & Saks, 2000; Greenhaus et al., 1983; Hollenbeck, 1989; Lance et al., 1995; Locke & Latham, 1990; Mallard et al., 1997; Rice et al., 1989; Tziner, 1987; Tziner & Falbe, 1990) or molar measures of perceived P-E fit (Brkich et al., 2002; Saks & Ashforth, 1997). This practice has been recommended in methodological critiques of difference scores (Johns, 1981; Wall & Payne, 1973). As expressed by Johns (1981, p. 459), "If respondents can describe existing organizational conditions and preferred organizational conditions, they can surely report directly whatever it is we think we measure when we calculate the difference between these descriptions."

In more subtle ways, the linkages among the approaches are taken for granted when researchers adopt one approach and rely on its relationships with other approaches to develop hypotheses and interpret results. For instance, numerous studies have used the atomistic approach to examine the relationship between needs-supplies fit and job satisfaction (Edwards, 1991; Locke, 1976). A key theoretical premise underlying these studies is that people cognitively compare perceived and desired job characteristics, and this comparison influences job satisfaction (Cranny, Smith, & Stone, 1992; Locke, 1976). However, studies that use the atomistic approach do not assess the cognitive comparison between perceived and desired job characteristics itself. Rather, they rest on the assumption that combining separate measures of perceived and desired job characteristics serves as a proxy for their cognitive comparison. In effect, atomistic studies of needs-supplies fit omit measures of molecular comparisons believed to mediate the effects of perceived needs and supplies on job satisfaction (Cranny et al., 1992; Locke, 1976). This omission applies to all atomistic P-E fit studies for which the cognitive comparison of the person and environment is theoretically responsible for outcomes (Dawis & Lofquist, 1984; French et al., 1982).

Studies using the molecular approach have also taken for granted its relationships with the atomistic and molar approaches. For example, studies of demands-abilities fit have asked respondents the extent to which job demands exceed abilities (Beehr et al., 1976; Chisholm et al., 1983; Netemeyer et al., 1995). Presumably, this comparison reflects the subjective difference between demands and abilities, the elements of the atomistic approach. Whether this is the case remains unanswered by studies that adopt the molecular approach. Other studies have transformed molecular measures by assigning positive and negative discrepancies the same score to capture fit in a molar sense (Greenhaus et al., 1983; McFarlin et al., 1995; McFarlin & Rice, 1992; Rice et al., 1989; Strauss et al., 2001). This procedure rests on the untested assumption that a transformed molecular measure captures P-E fit in the same psychological sense as a direct molar measure.

Studies using the molar approach have taken for granted its linkages with the other approaches, particularly the atomistic ap-

proach. For instance, molar studies of the effects of socialization on perceived person-organization fit (Cable & Parsons, 2001; Cooper-Thomas, van Vianen, & Anderson, 2004) rely on the premise that socialization affects the perceived person, the perceived organization, or both, and that these perceptions converge as a result of socialization. This premise goes untested by molar studies of person-organization fit. The molar approach has also been used to study the effects of job search behavior (Saks & Ashforth, 2002) and impression management (Kristof-Brown, Barrick, & Franke, 2002) on perceived person-job fit. It stands to reason that job search behavior affects perceived person-job fit by influencing the characteristics of jobs available to the person, such that perceptions of job characteristics become better aligned with the needs and abilities of the person. Conversely, impression management supposedly affects perceived person-job fit by altering the perceived characteristics of the person through the eyes of recruiters, such that the qualifications of the person seem better aligned with the requirements of the job. On the basis of this reasoning, job search behavior and impression management should affect the perceived job and person components, respectively, that constitute perceived person-job fit. The linkages between the atomistic and molar approaches indicated by this reasoning are assumed but not tested by molar studies of P-E fit.

Although the relationships among the atomistic, molecular, and molar approaches are generally taken for granted, some researchers have raised questions about these relationships. Kristof (1996) distinguished between measures of actual and perceived person-organization fit, which represent the atomistic and molar approaches, respectively, and indicated that whether "actual and perceived P-O [person-organization] fit are the same constructs, simply measured differently, or whether they are two distinct constructs is an empirical question that deserves further investigation" (p. 11). Likewise, Meglino and Ravlin (1998) reviewed studies using measures of actual and perceived value congruence, which again refer to the atomistic and molar approaches, and concluded that these measures are likely to "represent different, albeit related, constructs" (p. 384). Meglino and Ravlin (1998) added that "we need a clearer theoretical understanding of the causes of perceived value congruence" that may "go beyond the amount of actual value congruence" (p. 384). In a similar vein, Rice et al. (1989) suggested that perceived discrepancies between needs and supplies might have "a gestalt character that makes them psychologically unique from each of the two individual components involved in the comparison" (p. 591).

In sum, P-E fit researchers have expressed different views concerning the relationships among the atomistic, molecular, and molar approaches. Most researchers implicitly or explicitly adopt the assumption that the approaches are related as shown by Equations 1, 2, and 3, such that applying transformations indicated by these equations makes the approaches interchangeable. In contrast, a handful of researchers have suggested that the approaches might have conceptual or psychological differences, which implies that the relationships among the approaches are less straightforward than shown in Equations 1, 2, and 3. These differing views can be reconciled by empirical research that examines the relationships among the approaches. We now consider the available evidence, based on studies that have included more than one approach to P-E fit.

Empirical Research on the Relationships Among the Approaches

Most P-E fit studies have used either the atomistic, molecular, or molar approach and therefore provide no evidence concerning the relationships among the approaches. Some studies have included more than one approach, but these studies suffer from various shortcomings that obscure how the approaches relate to one another. One key shortcoming is that the approaches are often operationalized on substantively different dimensions. For instance, Kirchmeyer (1995) operationalized interpersonal similarity using atomistic measures for gender and molar measures for age, education, lifestyle, ethnic background, and religion. Likewise, Engle and Lord (1997) assessed leader-member similarity using atomistic measures for similarity in beliefs and a molar measure for similarity in attitudes. Relationships between the atomistic and molar measures in these studies confound the comparison of the atomistic and molar approaches with difference in the dimensions on which similarity was assessed.

Similar confounds occur when atomistic measures are used to examine P-E fit on specific dimensions and molar measures are used to assess P-E fit in a general sense. For example, studies of value congruence have used atomistic measures that list specific values and molar measures that assess overall perceived value congruence (Cable & Judge, 1996; Cable & Parsons, 2001; Cooper-Thomas et al., 2004; Dineen, Ash, & Noe, 2002; Dose, 1999; Judge & Cable, 1997) or perceived fit with the organization (Adkins et al., 1994; Cable & Judge, 1997). Likewise, studies of interpersonal similarity have used atomistic measures of demographic dimensions such as age, race, gender, and education along with molar measures of overall perceived similarity (Ensher & Murphy, 1997; Graves & Powell, 1995; Liden et al., 1993; Murphy & Ensher, 1999; Turban, Dougherty, & Lee, 2002; Turban & Jones, 1988; Wayne & Liden, 1995). Relationships between the atomistic and molar measures in these studies confound the linkages between the atomistic and molar approaches with the aggregation of specific comparisons into global perceptions of similarity, congruence, or fit.

Another shortcoming arises when data representing the approaches are obtained from different sources, such as supervisors and subordinates (Cooper-Thomas et al., 2004; Dose, 1999; Engle & Lord, 1997; Liden et al., 1993; Murphy & Ensher, 1999; Strauss et al., 2001; Turban et al., 2002; Turban & Jones, 1988; Wayne & Liden, 1995), recruiters and job applicants (Adkins et al., 1994; Graves & Powell, 1995), or participants and researchers involved in the study (Dineen et al., 2002; Ensher & Murphy, 1997). When measures representing the approaches come from different sources, the relationships among the approaches are confounded with the perceptual agreement between the sources. For instance, studies of value congruence have collected molar measures of perceived value congruence from employees and atomistic measures of personal and organizational values from employees and managers, respectively (Cooper-Thomas et al., 2004; Dose, 1999). Relationships between these atomistic and molar measures confound the linkages between the atomistic and molar approaches with the agreement between employee and manager perceptions of organizational values. Although collecting data from different sources has certain methodological advantages (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), it hinders the study of how perceptions of the person and environment relate to the perceived

discrepancy and perceived fit between the person and environment, as depicted in Figure 1. These relationships lie within the subjective realm and therefore require data from a single source, that is, the person whose perceptions are under investigation (Crampton & Wagner, 1994; Spector, 1994).

A final shortcoming involves analytical procedures that obscure the relationship between the approaches. This shortcoming is manifested by studies that use the atomistic and molar approaches and collapse atomistic measures into an index intended to represent P-E fit (Adkins et al., 1994; Cable & Judge, 1996, 1997; Cable & Parsons, 2001; Cooper-Thomas et al., 2004; Dineen et al., 2002; Dose, 1999; Engle & Lord, 1997; French et al., 1974; Fricko & Beehr, 1992; Judge & Cable, 1997; Liden et al., 1993; Turban et al., 2002; Wayne & Liden, 1995). This practice conceals whether the relationship between the atomistic and molar approaches follows the conceptual logic shown in Equation 3. Instead of treating this logic as an empirical question worthy of study (Kristof, 1996; Meglino & Ravlin, 1998), this practice adopts the logic as an untested assumption. This shortcoming also applies to studies that use the atomistic and molecular approaches and compute the algebraic difference between the atomistic measures prior to analysis (French et al., 1974; Khan & Morrow, 1991; Rice et al., 1991). By using the difference between atomistic measures, these studies provide no test of whether the relationship between the atomistic and molecular approaches supports the conceptual logic shown by Equation 1 (Edwards, 1994).

In sum, our review of P-E fit research did not reveal a single study that combined the atomistic, molecular, and molar approaches and avoided the shortcomings described above. As a result, the phenomenology of P-E fit shown in Figure 1 effectively constitutes a black box in P-E fit research. Studies that delve into this black box can avoid the shortcomings of previous research by incorporating three key features. First, measures that represent the approaches should be commensurate, meaning they refer to the same content dimension (Caplan, 1987; Dawis & Lofquist, 1984; Murray, 1938). Second, data should be collected from the same source to capture the relationships among the approaches as perceived by the respondent. Third, analytical procedures should be used that explicitly test whether the relationships among the approaches are consistent with the conceptual linkages shown by Equations 1, 2, and 3. The study reported in this article satisfies these criteria, thereby avoiding the ambiguities that characterize previous research.

Explaining the Relationships Among the Approaches

The primary purpose of the present study is to rigorously test the relationships among the atomistic, molecular, and molar approaches to P-E fit. A secondary purpose is to consider factors that could influence the relationships among the approaches. As noted earlier, perceived P-E fit is a comparative judgment that combines information about the perceived person and environment. Thus, we draw from research on comparative judgments to identify psychological factors that might influence the relationships among the atomistic, molecular, and molar approaches. We also consider methodological factors that potentially affect the relationships among the approaches, drawing from principles of survey design and psychometric theory.

Importance

One factor that might influence the relationships among the atomistic, molecular, and molar approaches is the importance of the dimension on which P-E fit is judged. By importance, we mean the degree to which the dimension is central to the person's self-concept. As the importance of a dimension increases, the person is more likely to process information regarding that dimension carefully and thoroughly (Beach & Mitchell, 1978; Petty & Cacioppo, 1986; Simon, 1976). This type of information processing should increase the consistency among atomistic, molecular, and molar judgments. For instance, when the comparison of the person and environment under the molecular approach is careful and thorough, the result should accurately reflect the difference between the perceived person and environment elements of the atomistic approach. This principle also applies to the manner in which atomistic and molecular information is integrated into molar judgments of fit, such that molar fit judgments should more accurately represent atomistic and molecular information as dimension importance increases.

Familiarity

The relationships among the approaches should also be stronger when the person is more familiar with the attributes being judged. This assertion draws from research on similarity judgments, which shows that novices judge similarity based on superficial features, whereas experts make similarity judgments based on deeper underlying features (Chi, Feltovich, & Glaser, 1981; Medin et al., 1993). Compared with novices, experts also draw from a more stable, organized, and extensive stock of knowledge (Robertson, 1996), access and recall this knowledge more rapidly and with fewer errors (Fiske, Kinder, & Larter, 1983; Simon & Chase, 1973), and use this knowledge to more accurately identify gaps between perceptions and evaluative standards (Ste-Marie, 1999). Applying this research to fit judgments, we predict that the correspondence among the atomistic, molecular, and molar approaches should be stronger when people are familiar rather than unfamiliar with the dimensions on which the person, the environment, discrepancies, and fit are judged.

Concreteness

We also propose that the relationships among the approaches will be stronger for dimensions that are concrete rather than abstract. Concrete dimensions have natural objective metrics, such as dollars for pay or number of subordinates for span of control. In contrast, abstract dimensions refer to subjective phenomena, such as the autonomy or creativity associated with a job. Because concrete dimensions have objective metrics, they are more likely than abstract dimensions to yield consistent judgments. This reasoning is supported by the shifting standards model (Biernat, Manis, & Nelson, 1991), which suggests that the meaning assigned to response scales is less likely to shift for scales that are objective rather than subjective. We extend this idea beyond the format of the response scale to the inherent nature of the dimension itself. That is, we argue that concrete dimensions are more likely than abstract dimensions to be encoded and recalled consistently, increasing the correspondence among the approaches.

Order

The relationships among the approaches may also depend on the order in which people make judgments for each approach. Drawing from the principle of cognitive accessibility (Wyer, 1980; Wyer & Srull, 1986), we predict that correspondence will be greatest when people make atomistic, molecular, and molar judgments in that order. Making atomistic judgments first increases the accessibility of information about the person and environment that can serve as input to molecular and molar judgments. Likewise, molecular judgments elicit directional comparisons of the person and environment, and these comparisons can provide input into fit judgments entailed by the molar approach. These input flows are not provided by other orderings, given that molar judgments do not contain directional information needed for molecular comparisons, and neither molar nor molecular judgments entail absolute levels of the person and environment needed for atomistic judgments. This reasoning is consistent with findings regarding order effects in survey research, which indicate that initial questions prompt the recall of information used to form answers to subsequent questions (D. A. Harrison, McLaughlin, & Coalter, 1996; Schwarz & Strack, 1991; Tourangeau & Rasinski, 1988).

Measurement Error

Finally, the relationships among the approaches are susceptible to random measurement error. When multiple regression is used, as in most studies of P-E fit, measurement error has two detrimental effects (Pedhazur, 1997). First, measurement error in the independent variables can bias coefficient estimates, producing deviations from the patterns indicated by Equations 1, 2, and 3. Second, measurement error in the dependent variable reduces explained variance, which would weaken the relationships among measures representing different approaches. Thus, when measurement error is reduced, the correspondence among the approaches should increase.

Method

Sample

Surveys were distributed to 939 business school students attending a large university in the southeastern United States. All of the students were seeking jobs and had interviewed with at least one recruiter. This sample was well suited to our study because the students were engaged in career decisions and focused on matters concerning the fit between themselves and possible jobs. In total, 373 surveys were returned, yielding a response rate of 40%. Respondents ranged in age from 20 to 39 years with a mean of 25 years, and most had full-time work experience, ranging from 0 to 160 months with a mean of 24 months. About 52% of the respondents were men, and 78% were Caucasian, 4% were African American, 3% were Hispanic, 11% were Asian, and 4% were in other racial categories. Respondents and nonrespondents did not differ in age or racial composition, although respondents had a higher proportion of women ($p < .01$).

Measures

Respondents completed measures that represented the atomistic, molecular, and molar approaches. The measures were framed in terms of needs-supplies fit, which is prevalent in P-E fit research (Dawis & Lofquist, 1984; Edwards, 1991; French et al., 1982) and highly relevant to our respondents, who were seeking jobs that fulfilled their career aspirations. Needs-supplies fit was assessed in reference to eight job dimensions: pay, span of

control, travel, vacation time, autonomy, closeness of supervision, prestige, and variety. These dimensions were chosen on the basis of their relevance to the sample and their prevalence in organization behavior research. Three items were used for each job dimension, yielding 24 items in total for the eight job dimensions (see the Appendix). Items were drawn from measures of work preferences and values (Gay, Weiss, Hendel, Dawis, & Lofquist, 1971; Pryor, 1983; Super, 1973) and were revised to ensure clarity and homogeneity of content within job dimension.

The 24 items were cast into atomistic, molecular, and molar measures that were consistent with previous studies of needs-supplies fit (see the Appendix). For the atomistic measures, the environment and person were operationalized as the perceived and desired amounts, respectively, of each job dimension. Perceived and desired amounts were rated on scales ranging from 1 (*none at all*) to 7 (*a very great amount*). Molecular measures elicited direct ratings of the discrepancy between perceived and desired amounts of each job dimension. To control for potential asymmetries in comparative judgments (Wänke, 1996), half of the surveys asked respondents to rate perceived amounts relative to desired amounts, and the other half asked respondents to rate desired amounts relative to perceived amounts. Both versions used a rating scale ranging from -3 (*much less*) to $+3$ (*much more*), with 0 indicating that perceived and desired amounts were equal. Prior to analysis, responses were recoded such that positive scores indicated that perceived amounts exceeded desired amounts. Molar measures assessed the degree to which the perceived amount of each job dimension fit what the respondent desired, using a scale ranging from 1 (*no fit*) to 7 (*complete fit*). For all measures, desired amounts were framed as what respondents considered adequate rather than ideal, which reduces ceiling effects for normatively desirable job dimensions such as pay (Locke, 1969).

Before completing the atomistic, molecular, and molar measures, respondents were asked to think about a job for which they had recently interviewed. To increase the salience of this job, we instructed respondents to write down the job title, the name of the company offering the job, whether they had been offered the job, and, if so, whether they had accepted the offer. Overall, 36% of the respondents had been offered the job they had identified, and 26% had accepted the job. Respondents then answered the survey questions in reference to this job.

Factors predicted to influence the correspondence among the approaches to fit were operationalized as follows. Importance was measured by asking respondents to rate the importance of the 24 items that described the eight job dimensions. Importance was rated on a scale ranging from 1 (*not at all important*) to 7 (*extremely important*). Familiarity was assessed with 3 items that asked respondents how much they knew about the referent job (e.g., "I know quite a lot about this job"), with responses ranging from -3 (*strongly disagree*) to $+3$ (*strongly agree*). Concreteness was determined based on the content of the job dimensions. Pay, span of control, travel, and vacation time have naturally quantitative metrics (i.e., dollars, number of people, days) and were therefore considered concrete, whereas autonomy, prestige, closeness of supervision, and variety do not have quantitative metrics and therefore were treated as abstract. Order was operationalized by counterbalancing the sequence of the atomistic, molecular, and molar measures using a digram-balanced Latin square (Wagenaar, 1969) such that each measure preceded and followed the other two measures the same number of times. Finally, the effects of measurement error were assessed by comparing results from regression analyses and structural equation modeling with latent variables.

After completing the atomistic, molecular, and molar measures, respondents were asked to write comments that described their thought process as they completed each measure. Two trained judges independently rated the degree to which each comment described (a) the environment; (b) the person; (c) the perceived discrepancy between the environment and person; and (d) the perceived fit between the environment and person. Agreement was assessed using weighted kappa (Cohen, 1968) for which disagreements of two units on the 3-point rating scale were given twice the weight of disagreements of one unit. Kappa was computed using free marginals,

given that judges had no prior knowledge of the distribution of comments on the rating scale (Brennan & Prediger, 1981). Kappa values averaged .84 and ranged from .75 to .96. These values were deemed adequate, and the ratings from the judges were averaged for analysis.

Analysis

Relationships among the approaches. The relationships among the atomistic, molecular, and molar approaches were analyzed using multiple regression. The independent and dependent variables for these analyses were the averages of the three items for each atomistic, molecular, and molar measure in reference to each job dimension. To analyze the relationship between the atomistic and molecular approaches, we used the following regression equation:

$$D = b_0 + b_1E + b_2P + e, \quad (4)$$

where D , E , and P represent the perceived discrepancy, environment, and person, respectively. Results from Equation 4 were used to assess three degrees of correspondence. *Directional correspondence*, the least stringent, required that b_1 and b_2 were positive and negative, respectively, as indicated by the theoretical expression in Equation 1. *Relative correspondence* added the restriction that b_1 and b_2 had the same absolute magnitude, such that the environment and person were given equal weight when judging their discrepancy. *Exact correspondence* added that the environment and person scales mapped directly onto the discrepancy scale. The environment and person scales ranged from 1 to 7, and the discrepancy scale ranged from -3 to $+3$. With these scales, exact correspondence would yield values of 0, 0.5, and -0.5 for b_0 , b_1 , and b_2 . R^2 values were also used to evaluate the correspondence between the approaches.

The relationship between the molecular and molar approaches was assessed using the following piecewise regression equation:

$$F = b_0 + b_1D + b_2W + b_3WD + e, \quad (5)$$

where F is perceived fit, D is the perceived discrepancy, and W is a dummy variable that equals 0 when D is negative, equals 1 when D is positive, and is randomly set to 0 or 1 when D equals 0. When $W = 0$, Equation 5 reduces to $F = b_0 + b_1D + e$, and when $W = 1$, Equation 5 becomes $F = (b_0 + b_2) + (b_1 + b_3)D + e$. Hence, for negative discrepancies, the intercept and slope relating D to F are b_0 and b_1 , and for positive discrepancies, the intercept and slope are $(b_0 + b_2)$ and $(b_1 + b_3)$. Equation 5 was used to test directional, relative, and exact correspondence as follows. As indicated by Equation 2, fit should increase as discrepancies approach zero from either direction, meaning that negative discrepancies should have positive slopes and positive discrepancies should have negative slopes. These conditions were used for directional congruence, which was supported when b_1 was positive and $(b_1 + b_3)$ was negative. Relative correspondence further stipulated that negative and positive discrepancies have equal but opposite effects on fit. This stipulation added the restrictions that $b_1 = -(b_1 + b_3)$ and b_2 equals zero, meaning the regression lines for negative and positive discrepancies are symmetric and converge when the discrepancy equals zero. Exact correspondence added a mapping of the discrepancy scale onto the fit scale. As noted above, the discrepancy scale ranged from -3 to $+3$, and the fit scale ranged from 1 to 7. Using these scales, fit should attain its maximum value of 7 when the discrepancy equals 0 and fall to its minimum value of 1 when the discrepancy reaches -3 or $+3$. These conditions indicate a slope of 2 for negative discrepancies, a slope of -2 for positive discrepancies, and a common intercept of 7 for both positive and negative discrepancies, which correspond to coefficients of 7, 2, 0, and -4 for b_0 , b_1 , b_2 , and b_3 , respectively, in Equation 5. Again, R^2 values were also used to evaluate the correspondence between the molecular and molar approaches.

Finally, the relationship between the atomistic and molar approaches was evaluated with the following piecewise regression equation:

$$F = b_0 + b_1E + b_2P + b_3W + b_4WE + b_5WP + e, \quad (6)$$

where F , E , and P are defined as before and W is a dummy variable that equals 0 when the $E - P$ difference is negative, equals 1 when $E - P$ is positive, and is randomly set to 0 or 1 when $E - P$ equals 0. If $W = 0$, Equation 6 becomes $F = b_0 + b_1E + b_2P + e$, whereas if $W = 1$, Equation 6 becomes $F = (b_0 + b_3) + (b_1 + b_4)E + (b_2 + b_5)P + e$. Thus, when $E - P$ is negative, the intercept and slopes for E and P are b_0 , b_1 , and b_2 , respectively, and when $E - P$ is positive, the intercept and slopes are $(b_0 + b_3)$, $(b_1 + b_4)$, and $(b_2 + b_5)$. Equation 6 was used to test directional, relative, and exact correspondence as follows. The conditions for directional correspondence were derived by noting that, according to Equation 3, fit increases as the $E - P$ difference approaches zero from either direction. Thus, when $E - P$ is negative, fit should increase as $E - P$ increases toward zero, which occurs when E increases or P decreases. These two conditions were satisfied if b_1 and b_2 were positive and negative, respectively, in Equation 6. Conversely, when $E - P$ is positive, fit should increase as $E - P$ decreases toward zero, which occurs when E decreases or P increases. These two conditions were met if $(b_1 + b_4)$ was negative and $(b_2 + b_5)$ was positive. Collectively, these four conditions were used to evaluate directional correspondence. Relative correspondence further required that the effects of E and P are symmetric, meaning that E and P were given equal but opposite weights for both positive and negative $E - P$ differences, and that as positive and negative $E - P$ differences approached zero, they would converge to the same value of fit. These requirements added the restrictions that $b_1 = -b_2$, $b_4 = -b_5$, $b_5 = 2b_1$, and $b_3 = 0$.¹ Exact correspondence added a mapping of the environment and person scales onto the fit scale. Based on this mapping, fit should reach its maximum value of 7 when the environment and person scores are equal and should drop to its minimum value of 1 when the difference between the environment and person scores is greatest (i.e., $E = 1$ and $P = 7$ or $E = 7$ and $P = 1$). Given the scaling of F , E , and P , exact correspondence implies values of 7, 1, -1 , 0, -2 , and 2 for b_0 , b_1 , b_2 , b_3 , b_4 , and b_5 , respectively, in Equation 6. As before, R^2 values were also used to assess the correspondence between atomistic and molar approaches.

Determinants of the relationships among the approaches. The factors predicted to influence the relationships among the atomistic, molecular, and molar approaches were analyzed as follows. Importance was added as a moderator variable to Equations 4, 5, and 6 by entering importance and its products with the independent variables in each equation. Simple slopes and intercepts (Aiken & West, 1991) were computed for low and high importance (i.e., one standard deviation below and above the mean, respectively). These parameters were used to determine whether conditions for directional, relative, and exact correspondence were met more often when importance was high than when it was low. Similar procedures were used to analyze the effects of familiarity and order, where order was coded as a dummy variable indicating whether the approach specified as the predictor preceded or followed the approach treated as the outcome.

Concreteness was not represented by a variable but instead referred to the content of each job dimension. Thus, the effects of concreteness were tested by assessing whether the degree of correspondence was greater for concrete dimensions than for abstract dimensions. Finally, to evaluate the effects of measurement error, we estimated Equations 4, 5, and 6 using structural equation modeling (Bollen, 1989; Jöreskog & Sörbom, 1996). These analyses treated E , P , D , and F as latent variables and used the three items for each of these variables as indicators. Multiple group analyses were used to represent the effects of the dummy variables in Equations 4 and 5. The effects of measurement error were assessed by evaluating whether the degree of correspondence was greater for these analyses than when regression analyses was used.

Screening data for outliers. Outliers have an inordinate effect on regression estimates (Belsley, Kuh, & Welsch, 1980) and can therefore undermine the assessment of correspondence. Hence, we screened each

¹ With the conditions that $b_1 = -b_2$ and $b_4 = -b_5$, the $b_5 = 2b_1$ condition is equivalent to $b_5 = -2b_2$, $b_4 = 2b_2$, or $b_4 = -2b_1$.

regression equation for outliers based on leverage (i.e., the diagonal values of the hat matrix), studentized residuals, and Cook's D statistic (Belsley et al., 1980; Fox, 1991). Observations that exceeded the minimum cutoff on all three criteria (Bollen & Jackman, 1990) and were clearly discrepant on plots that combined these criteria were dropped from the equation. This procedure affected no more than five observations per equation, or less than 2% of the cases used in each analysis.

Controlling Type I error. The relationships among the approaches were analyzed eight times, once for each job dimension. To control Type I error, we used the sequential Bonferroni procedure (Holm, 1979; Seaman, Levin, & Serlin, 1991). This procedure begins by defining the family of tests for which Type I error is controlled. For our purposes, a family comprised the tests of the R^2 values from the eight regression equations for each approach (Hochberg & Tamhane, 1987; Miller, 1981). For each family of tests, the obtained probabilities for the R^2 values were listed in ascending order. The first (i.e., smallest) probability was multiplied by the total number of tests (i.e., eight), the second was multiplied by the number of remaining tests (i.e., seven), and so forth. For each R^2 value that reached significance, coefficients from the equation were tested using the nominal alpha of .05. This procedure struck a balance between Type I and Type II error by considering only those equations that reached significance at the required familywise alpha while testing the coefficients from those equations in the usual manner.

Written protocols. For each respondent, the written protocols yielded measures of using four types of information (i.e., the environment, the person, perceived discrepancies, and perceived fit) across three survey formats (i.e., atomistic, molecular, and molar). These data are consistent with a repeated measures multivariate analysis of variance (MANOVA) with survey format as a single within-subject factor. However, the information use measures were positively skewed because of the low base rate with which respondents spontaneously described the environment, person, discrepancies, and fit in written protocols. This skewness violated the assumption underlying MANOVA that residuals are normally distributed. Therefore, we compared means of the information use measures with the bootstrap (Efron & Tibshirani, 1993; Stine, 1989). The lack of independence across the repeated measures was controlled by removing between-subjects differences in each measure, analogous to the univariate approach to repeated measures (Pedhazur, 1997). From these corrected scores, we drew 10,000 bootstrap samples, computed the means of the information use measures, and used bias-corrected confidence intervals to compare the means (Stine, 1989). Differences between means were declared statistically significant when their 95% confidence intervals excluded zero.

Results

Table 2 reports descriptive statistics, reliabilities (Cronbach's alpha), and correlations for all measures used in the study. The measures exhibited good dispersion, and bivariate plots of the person and environment measures showed a substantial portion of cases (i.e., at least 28%) on both sides of the line where person and environment scores were equal, which is required to test differences in slope on either side of this line. Reliabilities ranged from .84 to .95, well above the .70 criterion suggested by Nunnally (1978). Person and environment measures were positively correlated for all job dimensions. Discrepancies were positively related to the environment for all job dimensions and negatively related to the person for three job dimensions. These relationships are consistent with Equation 1 for the environment but not for the person. Fit correlated positively with the environment and person for all job dimensions and with discrepancies for six job dimensions. Although informative, these correlations cannot be used to gauge support for Equations 2 and 3, which predict nonlinear relationships between fit and the environment, the person, and discrepancies. Importance was positively related to the environment, person,

and fit for all job dimensions and negatively related to discrepancies for most dimensions. Familiarity exhibited small correlations with all person, environment, discrepancy, and fit measures.

Relationship Between the Atomistic and Molecular Approaches

Results for the relationship between the atomistic and molecular approaches are shown in Table 3. R^2 values ranged from .17 for autonomy to .37 for travel. For all eight job dimensions, coefficients were positive for E and negative for P , thereby satisfying the conditions for directional correspondence. Relative correspondence was satisfied for span of control and supervision, but for the other six dimensions, the coefficient on E was larger than the coefficient on P . Exact correspondence was rejected for all eight job dimensions. Collectively, these results provide limited support for the relationship between the atomistic and molecular approaches. Although the coefficients on E and P had the appropriate signs, coefficients on E were usually larger than coefficients on P , and the variance explained in the discrepancies was modest.

Figure 2 illustrates the relationships between the atomistic and molecular approaches. Figure 2a depicts exact correspondence to provide a theoretical benchmark, and Figures 2b, 2c, and 2d show predicted scores from regressions that represent progressively larger deviations from exact correspondence. In Figure 2a, the environment and person have equal but opposite slopes, and the discrepancy is lowest when the environment and person are at their minimum and maximum, respectively, and is greatest when the environment and person reach their maximum and minimum. In Figure 2b, which depicts the results for supervision, slopes for the environment and person are opposite and nearly equal, but the predicted discrepancy scores are less than their theoretical range. Figures 2c and 2d, which represent variety and pay, respectively, depict larger slopes for the environment than the person, as found for most job dimensions.

Relationship Between the Molecular and Molar Approaches

Results for the relationship between the molecular and molar approaches are shown in Table 4. R^2 values were low, ranging from .06 for prestige to .18 for vacation. When D was negative, its coefficient was positive for all job dimensions except supervision. However, when D was positive, its coefficient was negative only for span of control, travel, and supervision. Moreover, for four of the remaining five job dimensions, the coefficient on D was positive and significant, indicating that fit *increased* as discrepancies became increasingly positive. Relative correspondence was rejected for six job dimensions, and exact correspondence was rejected for all eight job dimensions. Thus, the relationship between the molecular and molar approaches was weak, in that discrepancies explained little variance in fit, and although negative discrepancies yielded positive slopes, positive discrepancies produced a mixed set of slopes.

Relationships between the molecular and molar approaches are illustrated in Figure 3. Figure 3a depicts exact correspondence, which entails equal and opposite slopes for negative and positive discrepancies, maximum fit when the discrepancy is zero, and minimum fit when the discrepancy reaches its largest negative or positive value. In contrast, the results for supervision in Figure 3b

Table 2
Means, Standard Deviations, Reliabilities, and Correlations Among Measures

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
Environment												
1. Pay	5.02	1.16	(.90)									
2. Span of control	3.45	1.31	.21	(.94)								
3. Travel	4.16	1.64	.49	.24	(.95)							
4. Vacation	4.25	1.12	.28	.17	.25	(.91)						
5. Autonomy	4.46	1.08	.28	.28	.20	.18	(.89)					
6. Supervision	4.25	1.16	.09	.09	.12	.20	-.25	(.92)				
7. Prestige	4.49	1.07	.54	.35	.31	.15	.38	.09	(.84)			
8. Variety	5.10	1.16	.35	.19	.27	.21	.60	-.08	.35	(.91)		
Person												
9. Pay	5.35	0.96	.30	.10	.14	-.05	-.06	.18	.21	-.04	(.87)	
10. Span of control	3.53	1.24	.02	.61	.10	.03	.18	.05	.23	-.01	.26	(.92)
11. Travel	3.75	1.35	.27	.19	.58	.08	.07	.19	.18	.08	.36	.29
12. Vacation	4.81	0.96	.05	.16	.18	.34	-.01	.21	.02	-.05	.33	.32
13. Autonomy	4.85	0.94	.03	.18	.11	.00	.51	-.04	.26	.20	.26	.36
14. Supervision	3.69	1.10	.16	.01	.18	.18	-.12	.55	.07	-.04	.23	.17
15. Prestige	4.49	1.17	.16	.16	.11	-.02	.11	.08	.57	.06	.46	.48
16. Variety	5.09	0.89	.15	.11	.17	.04	.32	.05	.25	.50	.30	.21
Discrepancy												
17. Pay	-0.38	1.50	.49	-.03	.29	.13	.11	-.02	.26	.18	-.08	-.15
18. Span of control	-0.15	0.83	.11	.23	.07	.15	-.04	.11	.06	.04	-.01	-.20
19. Travel	0.28	1.14	.28	.05	.51	.19	.03	.06	.21	.12	.01	-.02
20. Vacation	-0.50	1.19	.20	-.04	.12	.44	.03	.05	.12	.11	-.09	-.14
21. Autonomy	-0.25	1.04	.26	-.10	.08	.12	.31	-.17	.21	.26	-.12	-.15
22. Supervision	0.28	0.89	-.06	.12	-.03	.11	.00	.20	.04	.01	.03	-.04
23. Prestige	-0.10	0.91	.35	-.05	.17	.12	.12	.02	.35	.21	-.05	-.20
24. Variety	0.04	1.25	.26	-.06	.16	.13	.19	-.08	.20	.43	-.08	-.17
Fit												
25. Pay	5.28	1.27	.73	.12	.36	.23	.16	.06	.39	.20	.26	.00
26. Span of control	4.28	1.35	.18	.35	.10	.22	.23	.04	.29	.17	.01	.16
27. Travel	4.69	1.43	.24	.16	.22	.20	.25	.18	.25	.26	.06	.07
28. Vacation	4.78	1.27	.16	.05	.10	.60	.08	.13	.11	.11	.00	.00
29. Autonomy	4.90	1.08	.28	.19	.11	.22	.69	-.16	.34	.47	-.02	.09
30. Supervision	4.47	1.25	.25	.02	.10	.24	.20	.13	.18	.21	-.01	-.06
31. Prestige	4.86	1.20	.39	.19	.15	.13	.31	.08	.65	.31	.08	.08
32. Variety	5.33	1.15	.35	.11	.20	.24	.54	-.11	.36	.74	-.04	-.05
Importance												
33. Pay	5.49	0.99	.23	.05	.13	.03	-.08	.14	.12	-.03	.62	.17
34. Span of control	3.58	1.25	-.03	.31	.04	.05	.13	-.04	.15	.03	.13	.60
35. Travel	3.89	1.32	.13	.08	.24	.05	.14	.08	.11	.07	.13	.20
36. Vacation	5.08	1.19	-.05	.06	-.04	.10	.00	.09	-.06	-.10	.10	.17
37. Autonomy	4.97	0.95	-.02	.14	.11	.07	.33	-.02	.14	.15	.10	.21
38. Supervision	3.26	1.14	.02	.03	.03	.14	-.19	.33	-.03	-.15	.15	.14
39. Prestige	4.66	1.11	.06	.08	.07	.01	.08	.00	.38	.04	.24	.34
40. Variety	5.12	1.05	.14	.09	.15	.11	.27	-.06	.18	.35	.00	.10
41. Familiarity	5.20	1.31	.15	.02	.09	.19	.12	.02	.18	.22	.16	.06

Note. $N = 353$. Reliability estimates (Cronbach's alpha) are reported in parentheses along the diagonal. Correlations greater than .10 in absolute value were statistically significant at $p < .05$; correlations greater than .14 in absolute value were significant at $p < .01$.

show a larger slope when the discrepancy was positive, and the results for span of control in Figure 3c indicate a larger slope when the discrepancy was negative. In neither case did the fit scores reach their theoretical minimum or maximum values. Finally, Figure 3d shows that, as discrepancies for autonomy became increasingly positive, fit actually increased rather than decreased, a result that was obtained for four of the eight job dimensions.

Relationship Between the Atomistic and Molar Approaches

Results for the relationship between atomistic and molar approaches are shown in Table 5. R^2 values ranged from .15 for supervision to .58 for pay. When $E - P$ was negative, the coefficient on E was positive for all job dimensions, but the coefficient on P was negative only for travel. When $E - P$ was positive, coefficients on E were negative only for travel and supervision, whereas coefficients on P were positive for six job dimensions. Taken together, these results support directional correspondence only for travel but reject relative and exact correspondence for all job dimensions. Thus, the relationship between the atomistic and molar approaches was weak, in that coefficients deviated from the expected pattern for most job dimensions, and the variance explained in fit was variable but generally modest.

Figure 4 illustrates the relationships between the atomistic and molar approaches. Figure 4a, which depicts exact correspondence, indicates that fit is maximized when $E - P$ equals zero and

Figure 4 illustrates the relationships between the atomistic and molar approaches. Figure 4a, which depicts exact correspondence, indicates that fit is maximized when $E - P$ equals zero and

11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
(.93)														
.21	(.88)													
.23	.20	(.85)												
.33	.29	-.08	(.90)											
.29	.20	.41	.19	(.86)										
.31	.19	.58	.06	.36	(.85)									
.11	-.14	-.05	.00	.00	.02	(.93)								
.00	-.02	-.03	-.02	-.12	.02	.13	(.92)							
.00	.11	.04	.04	.04	.02	.41	.15	(.92)						
.00	-.16	-.10	-.01	-.02	-.08	.58	.22	.29	(.93)					
-.05	-.14	-.05	-.05	-.01	-.02	.63	.07	.25	.53	(.89)				
-.09	.06	.10	-.26	-.01	.05	.03	.22	.14	.15	-.06	(.91)			
-.02	-.04	-.01	-.04	-.05	.06	.63	.25	.30	.37	.56	.10	(.85)		
.02	-.10	-.12	.00	-.02	.02	.62	.06	.29	.51	.71	-.04	.53	(.92)	
.21	.01	.01	.13	.16	.09	.37	.09	.23	.18	.18	-.04	.25	.15	(.91)
.04	.03	.17	-.01	.07	.11	.06	.17	.06	.12	.06	.06	.15	.02	.26
.28	.04	.18	.14	.08	.24	.11	.06	.08	.14	.12	-.05	.14	.13	.30
.03	.17	.04	.11	.02	.06	.11	.13	.18	.41	.10	.12	.13	.10	.35
.01	-.02	.39	-.09	.09	.29	.10	.07	.10	.12	.32	-.01	.17	.14	.33
.07	.02	-.05	.32	.02	.08	.13	.06	.01	.18	.25	-.17	.16	.17	.28
.07	-.04	.18	.07	.36	.22	.14	.06	.13	.11	.17	-.02	.28	.11	.47
.04	-.04	.20	-.06	.06	.41	.20	.07	.13	.18	.30	-.01	.23	.37	.35
.16	.22	.05	.13	.28	.08	-.13	-.05	.06	-.06	-.08	.01	-.06	-.07	.26
.12	.15	.16	.05	.34	.14	-.13	-.30	-.04	-.10	-.08	-.07	-.19	-.16	.02
.49	.07	.16	.12	.19	.15	.06	-.17	-.16	.02	.05	-.12	-.06	.04	.10
-.09	.52	.05	.09	.08	-.03	-.13	.00	.07	-.21	-.08	.04	-.07	-.09	-.06
.12	.11	.56	-.12	.22	.31	-.06	.00	.06	-.04	-.07	.14	-.07	-.09	-.03
.20	.17	-.09	.62	.13	.02	-.02	-.02	-.03	.02	-.04	-.22	-.05	-.02	.09
.13	.06	.25	.08	.69	.16	-.09	-.16	.06	-.06	-.07	-.03	-.13	-.09	.09
.13	.06	.28	-.01	.14	.55	.08	-.01	.02	.00	.03	.02	.08	.04	.06
.11	-.01	.03	.13	.14	.14	.05	-.07	.01	.16	.07	-.06	.03	.11	.16

(table continues)

minimized when $E - P$ reaches its maximum negative or positive value. Figure 4b shows that, for travel, fit decreased as $E - P$ increased in either direction, although fit was greater when the environment and person were both high than when they were both low. Figure 4c, which represents span of control, is analogous to Figure 4b but indicates weaker relationships for the environment and person, in that the overall surface is flatter. Finally, Figure 4d shows that, for prestige, fit was positively related to the environment regardless of whether $E - P$ was negative or positive.

Determinants of the Relationships Among the Approaches

Table 6 summarizes results for factors predicted to influence the relationships among the approaches. Table entries indicate whether

the conditions for directional, relative, or exact correspondence were satisfied for two levels of each factor. Correspondence is predicted to be stronger in the right column than in the left column under the heading for each factor.

Importance. As importance increased, correspondence between the atomistic and molecular approaches became stronger. When importance was low, the conditions for directional and relative correspondence were met for four and two job dimensions, respectively. When importance was high, the conditions for directional, relative, and exact correspondence were met for four, two, and two dimensions. Overall, for five dimensions, correspondence was enhanced when importance increased. For the molecular and molar approaches, however, correspondence weakened as impor-

Table 2 (continued)

Variable	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
Environment																
1. Pay																
2. Span of control																
3. Travel																
4. Vacation																
5. Autonomy																
6. Supervision																
7. Prestige																
8. Variety																
Person																
9. Pay																
10. Span of control																
11. Travel																
12. Vacation																
13. Autonomy																
14. Supervision																
15. Prestige																
16. Variety																
Discrepancy																
17. Pay																
18. Span of control																
19. Travel																
20. Vacation																
21. Autonomy																
22. Supervision																
23. Prestige																
24. Variety																
Fit																
25. Pay																
26. Span of control	(.94)															
27. Travel	.43	(.92)														
28. Vacation	.39	.39	(.89)													
29. Autonomy	.42	.38	.35	(.89)												
30. Supervision	.43	.39	.31	.32	(.91)											
31. Prestige	.56	.43	.34	.52	.39	(.89)										
32. Variety	.36	.41	.38	.66	.33	.48	(.91)									
Importance																
33. Pay	-.02	.03	.05	-.02	-.03	.08	-.03	(.92)								
34. Span of control	.14	.00	-.01	.09	-.05	.10	-.04	.20	(.95)							
35. Travel	-.04	.17	-.03	.04	.03	.02	.04	.18	.21	(.96)						
36. Vacation	-.02	-.04	.08	-.01	-.06	-.09	-.05	.21	.19	.07	(.93)					
37. Autonomy	.04	.10	.05	.25	-.08	.06	.08	.14	.35	.23	.19	(.91)				
38. Supervision	-.05	.07	.05	-.13	.19	.02	-.14	.17	.16	.19	.12	-.05	(.94)			
39. Prestige	.07	.06	.07	.12	.04	.33	.07	.33	.47	.25	.13	.39	.14	(.91)		
40. Variety	.13	.22	.18	.22	.06	.18	.37	.01	.18	.20	.09	.40	.05	.21	(.91)	
41. Familiarity	.14	.18	.17	.22	.10	.17	.23	.14	.03	.06	-.12	.04	-.01	.09	.09	(.94)

tance increased, in that two dimensions exhibited directional correspondence when importance was low but not when it was high. For the atomistic and molar approaches, relative correspondence was supported for one dimension when importance was low, but no support for correspondence was found when importance was high. Thus, importance improved the correspondence between the atomistic and molecular approaches but worsened the correspondence of the molar approach with the atomistic and molecular approaches.

Familiarity. For the atomistic and molecular approaches, the effects of familiarity were mixed. When familiarity was low, directional, relative, and exact correspondence were obtained for two, three, and two dimensions, respectively. When familiarity

was high, directional, relative, and exact correspondence were found for four, three, and one dimensions, respectively. In total, as familiarity increased, correspondence increased for two dimensions but decreased for three dimensions. For the molecular and molar approaches, relative correspondence was supported for four dimensions when familiarity was low but only two dimensions when familiarity was high. For the atomistic and molar approaches, directional and relative correspondence were each supported once when familiarity was low, whereas directional correspondence was obtained once when familiarity was high. Hence, familiarity had little effect on the correspondence for the atomistic and molecular approaches and slightly weakened the correspondence of the molar approach with the atomistic and molecular approaches.

Table 3
Relationship Between the Atomistic and Molecular Approaches

Job dimension	<i>Int</i>	<i>E</i>	<i>P</i>	<i>R</i> ²	<i>F_R</i>	<i>F_E</i>
Pay	-2.04** (0.42)	0.74** (0.07)	-0.39** (0.08)	.27**	19.63**	11.03**
Span of control	-0.07 (0.12)	0.31** (0.04)	-0.33** (0.04)	.18**	0.23	11.26**
Travel	-0.53** (0.15)	0.53** (0.04)	-0.37** (0.04)	.37**	19.13**	7.29**
Vacation	-0.97** (0.30)	0.59** (0.05)	-0.43** (0.06)	.29**	6.75**	8.21**
Autonomy	-0.64* (0.27)	0.47** (0.06)	-0.36** (0.06)	.17**	4.06*	2.78*
Supervision	0.12 (0.17)	0.36** (0.04)	-0.37** (0.05)	.19**	0.13	4.10**
Prestige	-0.89** (0.20)	0.45** (0.05)	-0.27** (0.05)	.17**	15.99**	11.91**
Variety	-1.18 (0.35)	0.59** (0.06)	-0.36** (0.08)	.21**	11.88**	4.13**

Note. *N* ranged from 357 to 362. For each job dimension, the dependent variable was the perceived discrepancy between the environment and person, and table entries in the *Int*, *E*, and *P* columns are unstandardized regression coefficient estimates and standard errors (in parentheses) for the intercept, environment, and person, respectively, corresponding to Equation 4. Columns labeled *F_R* and *F_E* contain *F* tests for relative and exact correspondence, respectively.

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

Concreteness. The correspondence between the atomistic and molecular approaches did not differ for abstract and concrete dimensions in that, for both types of dimensions, directional correspondence was obtained three times and relative correspondence was obtained once. For the molecular and molar approaches, relative correspondence held for one abstract dimension, and directional and relative correspondence were each supported for one concrete dimension. For the atomistic and molar approaches, correspondence was not supported for the abstract dimensions, but directional correspondence was supported for one concrete dimension. Hence, concreteness slightly enhanced the correspondence of the molar approach with the atomistic and molecular approaches.

Order. For the atomistic and molecular approaches, correspondence was somewhat stronger when the atomistic approach preceded rather than followed the molecular approach. When the atomistic approach followed the molecular approach, directional correspondence was supported for six dimensions, and relative and exact correspondence were each supported for one dimension. When the atomistic approach preceded the molecular approach, directional, relative, and exact correspondence were supported for three, two, and three dimensions, respectively, and correspondence increased for three dimensions. For the molecular and molar approaches, relative correspondence was supported for one dimension when the molecular approach came second but was supported for two dimensions when the molar approach came first. For the atomistic and molar approaches, no support for correspondence was found when the atomistic approach came second, but relative correspondence was supported for two dimensions when the atomistic approach came first. Thus, order produced modest improvements in the correspondence among the atomistic, molecular, and molar approaches.

Measurement error. For the atomistic and molecular approaches, correcting for measurement error improved correspondence. Before measurement error was corrected, directional and relative correspondence were found for six and two dimensions,

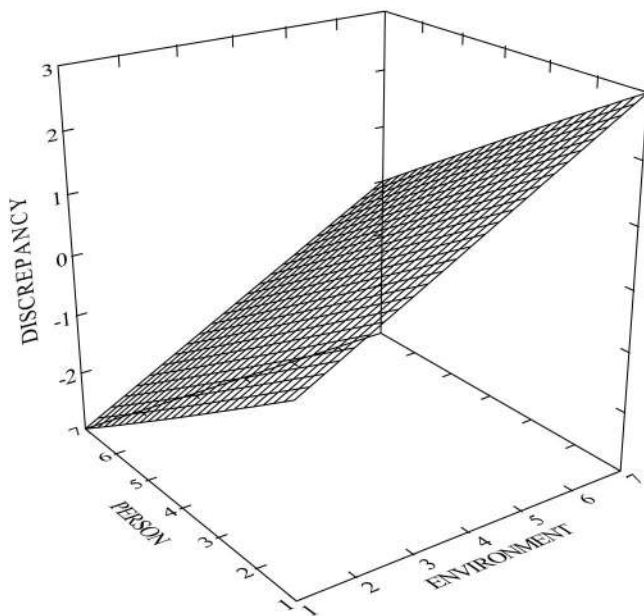
respectively. After measurement error was corrected, directional, relative, and exact correspondence were supported for four, two, and two dimensions, reflecting improved correspondence for four dimensions. In contrast, correcting for measurement error had no effect on the correspondence of the molar approach with the atomistic and molecular approaches.

Analyses of Written Protocols

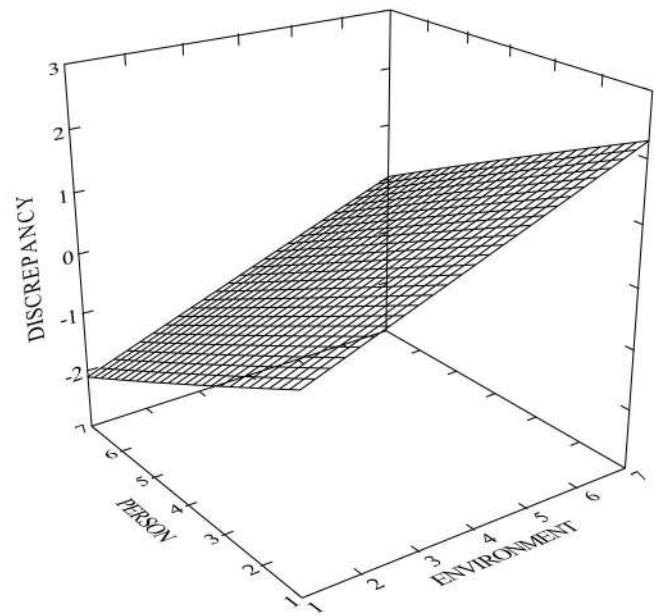
Results from analyses of written protocols are summarized in Table 7, which shows mean ratings of comments representing the perceived environment, perceived person, perceived discrepancies, and perceived fit. Overall, the mean ratings were low but significantly greater than zero, due to the high level of statistical power provided by the sample size and repeated measures design. More informative are the comparisons between the means within each row and column. If respondents answered questions for each approach by focusing primarily on information pertaining to that approach, then the following pattern of means should emerge: (a) for the atomistic approach, the means of the perceived environment and person should not differ from each other, and both means should be higher than means in the same row and column; (b) for the molecular approach, the mean for the perceived discrepancy should be higher than means in the same row and column; and (c) for the molar approach, the mean for perceived fit should be higher than means in the same row and column.

Table 7 shows partial support for this pattern. Specifically, the means for the perceived environment and person were higher for the atomistic approach than for the molecular and molar approaches. Within the atomistic approach, the means for the environment and person did not differ from each other, and both were higher than the mean for perceived fit. However, the means for the perceived environment and person were lower than the mean for the perceived discrepancy. As expected, the mean for the perceived discrepancy was higher for the molecular approach than for

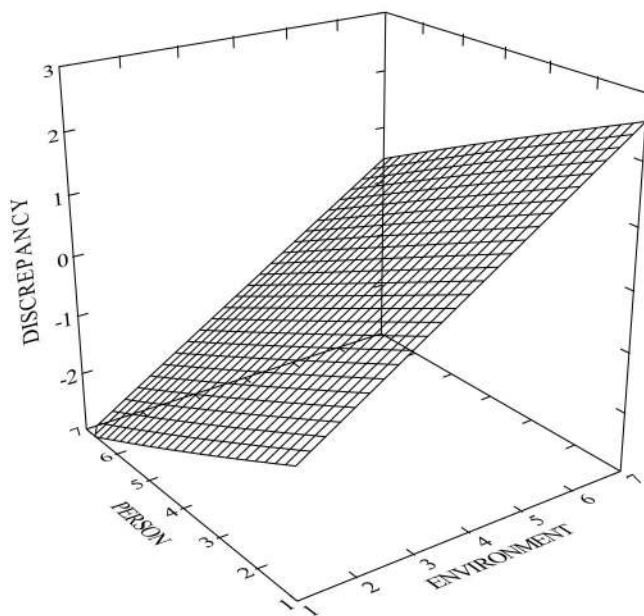
a. EXACT CORRESPONDENCE



b. SUPERVISION



c. VARIETY



d. PAY

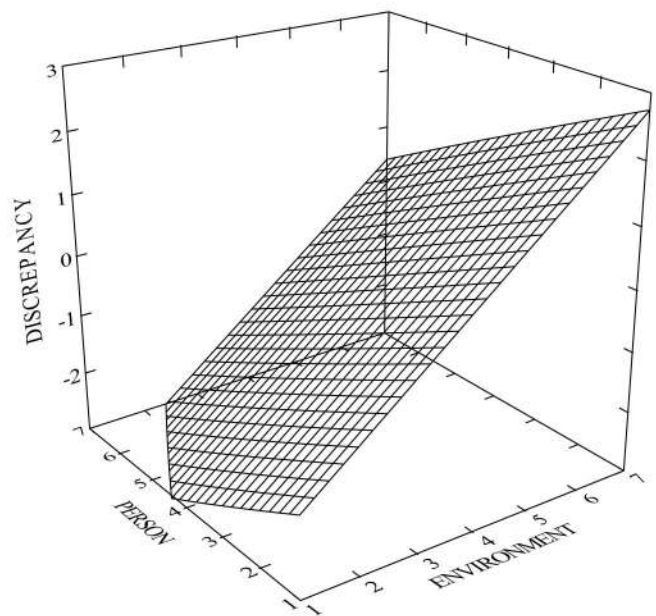


Figure 2. Relationship between atomistic and molecular fit.

the atomistic and molar approaches, but this difference was significant only for the comparison with the molar approach. Within the molecular approach, the mean for the perceived discrepancy was higher than the means for the perceived environment, person,

and fit, although the means of the environment and person exceeded the mean of fit. Finally, as expected, the mean for perceived fit was higher for the molar approach than for the atomistic and molecular approaches, and within the molar approach, the

Table 4
Relationship Between the Molecular and Molar Approaches

Job dimension	<i>Int</i>	<i>D</i>	<i>W</i>	<i>WD</i>	<i>R</i> ²	<i>D</i> < 0		<i>D</i> > 0		<i>F_R</i>	<i>F_E</i>
						<i>Int</i>	<i>D</i>	<i>Int</i>	<i>D</i>		
Pay	5.48** (0.14)	0.37** (0.09)	-0.13 (0.21)	-0.02 (0.14)	.15**	5.48** (0.14)	0.37** (0.09)	5.35** (0.16)	0.35** (0.10)	30.95**	259.39**
Span of control	4.67** (0.13)	0.80** (0.15)	-0.02 (0.18)	-1.27** (0.22)	.10**	4.67** (0.13)	0.80** (0.15)	4.65** (0.13)	-0.47** (0.16)	1.77	190.73**
Travel	5.18** (0.16)	0.85** (0.16)	-0.20 (0.21)	-1.09** (0.19)	.09**	5.18** (0.16)	0.85** (0.16)	4.98** (0.14)	-0.24* (0.11)	6.29**	104.77**
Vacation	4.93** (0.13)	0.41** (0.09)	0.25 (0.19)	-0.07 (0.16)	.18**	4.93** (0.13)	0.41** (0.09)	5.18** (0.14)	0.34** (0.13)	32.87**	160.49**
Autonomy	4.93** (0.11)	0.25* (0.10)	-0.06 (0.16)	0.22 (0.15)	.11**	4.93** (0.11)	0.25* (0.10)	4.88** (0.12)	0.47** (0.11)	21.56**	218.83**
Supervision	4.82** (0.13)	0.31 (0.18)	-0.06 (0.18)	-0.94** (0.22)	.10**	4.82** (0.13)	0.31 (0.18)	4.77** (0.12)	-0.63** (0.12)	2.76	165.74**
Prestige	4.90** (0.18)	0.32* (0.13)	0.09 (0.17)	-0.08 (0.19)	.06**	4.90** (0.18)	0.32* (0.13)	4.99** (0.12)	0.24 (0.13)	163.45**	11.05**
Variety	5.38** (0.11)	0.34** (0.10)	-0.10 (0.17)	-0.01 (0.14)	.12**	5.38** (0.11)	0.34** (0.10)	5.28** (0.12)	0.34** (0.09)	22.98**	262.16**

Note. *N* ranged from 357 to 362. For each job dimension, the dependent variable was the perceived fit between the environment and person, and table entries in the *Int*, *D*, *W*, and *WD* columns are unstandardized regression coefficient estimates and standard errors (in parentheses) for the intercept, the discrepancy, the dummy variable *W*, and the product of *W* with the discrepancy, respectively, corresponding to Equation 5. Entries under the headings *D* < 0 and *D* > 0 are intercepts and slopes for discrepancies that are less than and greater than zero, respectively. Columns labeled *F_R* and *F_E* contain *F* tests for relative and exact correspondence, respectively.

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

mean for perceived fit was higher than the means for the perceived environment, person, and discrepancy. Hence, for the molecular and molar approaches, respondents reported focusing primarily on information pertaining to the approach under consideration. Respondents also indicated that they considered atomistic information when forming molecular judgments and atomistic and molecular information when forming molar judgments. However, when answering atomistic questions, respondents referred to molecular information more than atomistic information, even though the atomistic questions solicited absolute rather than relative judgments.

Discussion

This study examined the relationships among the atomistic, molecular, and molar approaches to P-E fit. Overall, our results indicate that these relationships deviate markedly from the conceptual logic that links the three approaches. Some support was found for correspondence between the atomistic and molecular approaches, in that the perceived discrepancy between the environment and person was positively related to the environment and negatively related to the person, consistent with Equation 1. However, for most job dimensions, the coefficient on the environment was larger, meaning that people gave greater weight to the perceived environment than the perceived person when forming perceptions of discrepancies between the person and environment. In contrast, the correspondence between the molecular and molar approaches was very weak. For three job dimensions, perceived fit was greatest when perceived discrepancies were zero, as indicated by Equation 2. However, for five dimensions, perceived fit *increased* as perceived discrepancies became positive, which contradicts the conceptual logic that links the molecular and molar approaches. The correspondence between the atomistic and molar

approaches was also weak. When the environment was less than the person, perceived fit was positively related to the environment for all job dimensions but was negatively related to the person for only one dimension. When the environment was greater than the person, perceived fit was negatively related to the environment for only two job dimensions and was positively related to the person for six job dimensions. In combination, these findings were consistent with the theoretical logic shown by Equation 3 for only one job dimension. *R*² values from the equations linking the approaches varied but, in most cases, were substantially smaller than would be expected for variables that represent the same concept of P-E fit.

Limited support was found for factors predicted to influence the relationships among the approaches. The correspondence between the atomistic and molecular approaches improved as job dimension importance increased, when atomistic perceptions were elicited before molecular comparisons, and when measurement error was taken into account. However, even under these conditions, the correspondence between the atomistic and molecular approaches remained modest. The correspondence of the molar approach with the atomistic and molecular approaches was largely unrelated to importance, familiarity, concreteness, measurement error, or whether molar judgments preceded or followed atomistic or molecular judgments.

Taken together, the results of this study raise fundamental questions about the subjective meaning of P-E fit. From a theoretical standpoint, the atomistic, molecular, and molar approaches to P-E fit should relate to one another according to the conceptual logic shown by Equations 1, 2, and 3. However, this logic was not borne out by perceptions of the person and environment and judgments of their discrepancy and fit. Factors predicted to strengthen the relationships among the approaches had little effect,

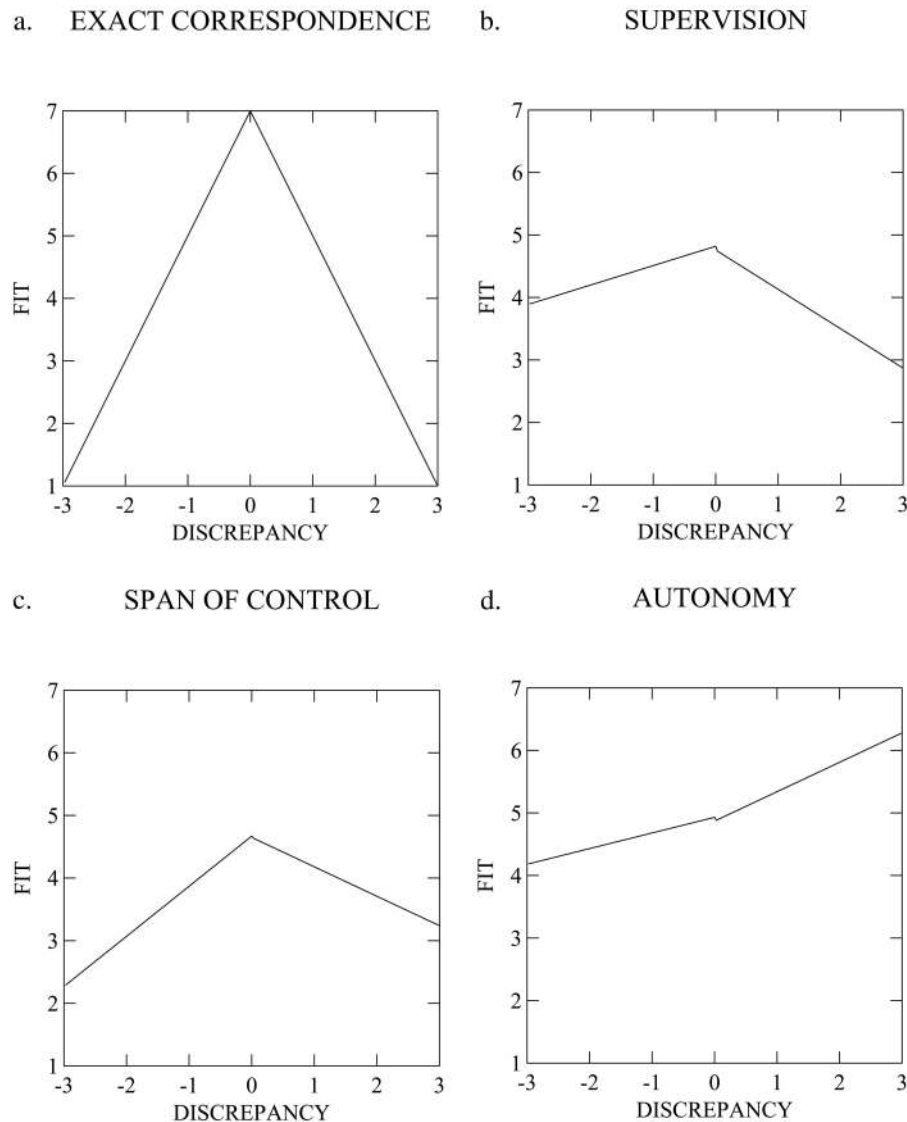


Figure 3. Relationship between molecular and molar fit.

and even when these factors were taken into account, the relationships among the approaches remained modest at best. Hence, the atomistic, molecular, and molar approaches to P-E fit are not interchangeable, which calls into question the assumption that the three approaches represent the same concept (Judge & Cable, 1997; Kristof, 1996; Locke & Latham, 1990; Verquer et al., 2003). Instead, the approaches apparently tap into different subjective experiences of P-E fit. These experiences and their interrelationships constitute the phenomenology of P-E fit (see Figure 1) and merit research in their own right.

To further probe the meaning of the atomistic, molecular, and molar approaches, we conducted a series of supplemental analyses. Two sets of analyses were particularly enlightening and suggest promising directions for future research. First, we speculated that the relationship between the atomistic and molecular approaches might be influenced by the framing of the molecular questions (Wänke, 1996). As explained in the Method section, these questions were framed in two ways, one comparing the environment to

the person and the other comparing the person to the environment. We used this distinction to code a dummy variable that served as a moderator of the relationship between the atomistic and molecular measures. For all eight job dimensions, the increment in variance explained by the products of the dummy variable with the atomistic measures was statistically and practically significant, averaging .25. Simple slopes (Aiken & West, 1991) revealed a clear pattern. When the molecular measure compared the environment to the person, the coefficient on the environment was larger than the coefficient on the person, augmenting the general pattern in Table 3. Conversely, when the molecular measure compared the person to the environment, the pattern was reversed, such that the coefficient on the person was larger than the coefficient on the environment. This difference was significant for six of eight dimensions but was generally smaller than the difference between the coefficients when the environment was compared to the person. Hence, when forming molecular comparisons, the relative weight given to the environment and person was influenced by

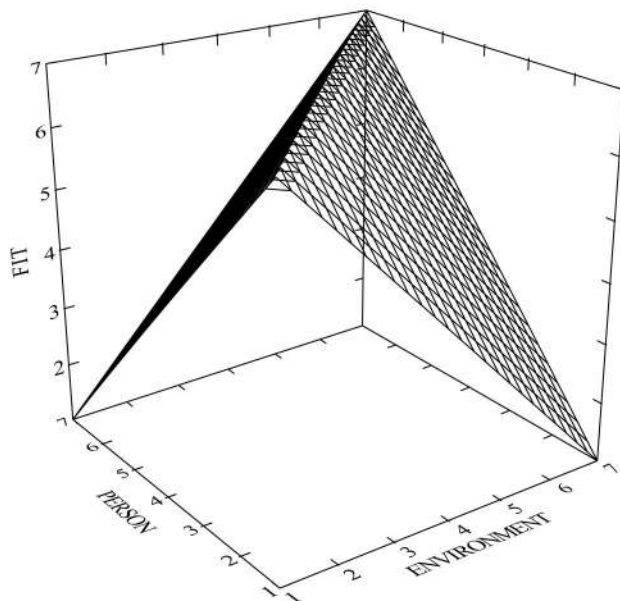
Table 5
Relationship Between the Atomistic and Molar Approaches

Job dimension	$(E - P) < 0$					$(E - P) > 0$									
	Int	E	P	W	WE	WP	R ²	Int	E	P					
Pay	0.35 (0.43)	0.90** (0.06)	0.08 (0.09)	1.38* (0.63)	-0.34* (0.14)	0.09 (0.14)	.58**	0.35 (0.43)	0.90** (0.06)	0.08 (0.09)	1.73** (0.46)	0.56** (0.12)	0.17 (0.11)	84.99**	114.36**
Span of control	3.01** (0.31)	0.60** (0.12)	-0.21 (0.11)	0.85 (0.44)	-0.72** (0.18)	0.58** (0.19)	.16**	3.01** (0.31)	0.60** (0.12)	-0.21 (0.11)	3.86** (0.30)	-0.13 (0.14)	0.37* (0.15)	12.05**	160.84**
Travel	4.54** (0.36)	0.84** (0.13)	-0.64** (0.13)	-0.69 (0.45)	-1.19** (0.15)	1.36** (0.16)	.24**	4.54** (0.36)	0.84** (0.13)	-0.64** (0.13)	3.85** (0.28)	-0.36** (0.08)	0.72** (0.09)	11.85**	77.09**
Vacation	1.73** (0.13)	0.83** (0.09)	-0.09 (0.19)	0.58 (0.16)	-0.34* (0.09)	0.22 (0.62)	.41**	1.73** (0.13)	0.83** (0.09)	-0.09 (0.19)	2.31** (0.47)	0.49** (0.14)	0.13 (0.15)	44.53**	136.41**
Autonomy	1.66** (0.30)	0.91** (0.07)	-0.15 (0.08)	0.16 (0.44)	-0.49** (0.15)	0.45** (0.16)	.54**	1.66** (0.30)	0.91** (0.07)	-0.15 (0.08)	1.83** (0.32)	0.41** (0.13)	0.30* (0.14)	83.10**	259.41**
Closeness of supervision	3.24** (0.48)	0.41* (0.19)	-0.03 (0.20)	0.51 (0.57)	-0.75** (0.21)	0.66** (0.22)	.15**	3.24** (0.48)	0.41* (0.19)	-0.03 (0.20)	3.75** (0.31)	-0.33** (0.09)	0.62** (0.09)	6.89**	143.06**
Prestige	1.33** (0.41)	0.92** (0.09)	-0.12 (0.11)	0.54 (0.50)	-0.46** (0.14)	0.35* (0.15)	.47**	1.33** (0.41)	0.92** (0.09)	-0.12 (0.11)	1.88** (0.29)	0.47** (0.11)	0.23* (0.10)	67.07**	207.65**
Variety	1.48** (0.37)	0.86** (0.08)	-0.08 (0.09)	-0.01 (0.51)	-0.41** (0.12)	0.43** (0.13)	.58**	1.48** (0.37)	0.86** (0.08)	-0.08 (0.09)	1.46** (0.35)	0.45** (0.10)	0.35** (0.09)	107.85**	178.28**

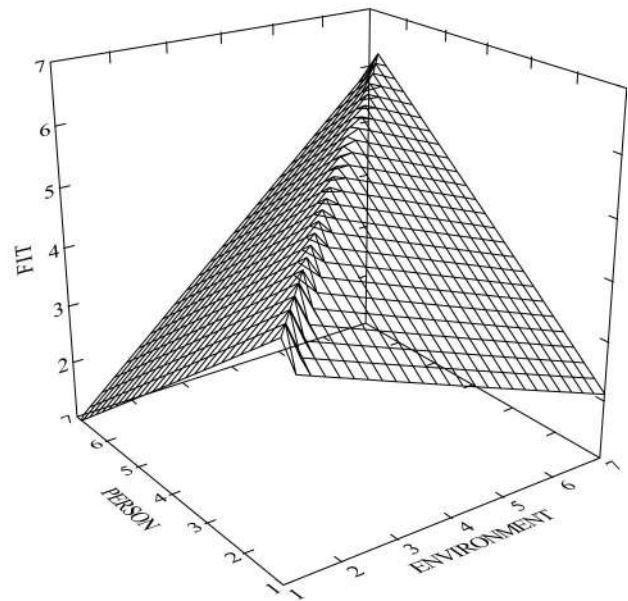
Note. N ranged from 357 to 362. For each job dimension, the dependent variable was the perceived fit between the environment and person, and table entries in the *Int*, *E*, *P*, *W*, *WE*, and *WP* columns are unstandardized regression coefficient estimates and standard errors (in parentheses) for the intercept, the environment, the person, the dummy variable *W*, and the product of *W* with the environment and person, respectively corresponding to Equation 6. Entries under the headings $(E - P) < 0$ and $(E - P) > 0$ are intercepts and slopes for the environment and person when the $E - P$ difference is negative and positive, respectively. Columns labeled F_R and F_E contain F tests for relative and exact correspondence, respectively.

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

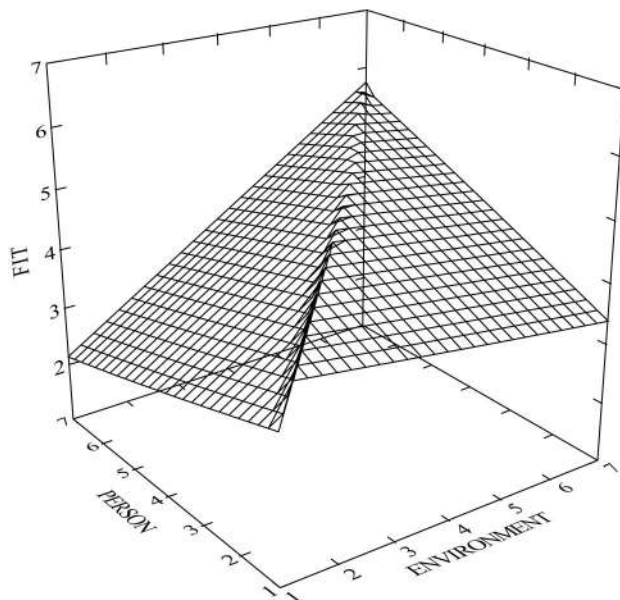
a. EXACT CORRESPONDENCE



b. TRAVEL



c. SPAN OF CONTROL



d. PRESTIGE

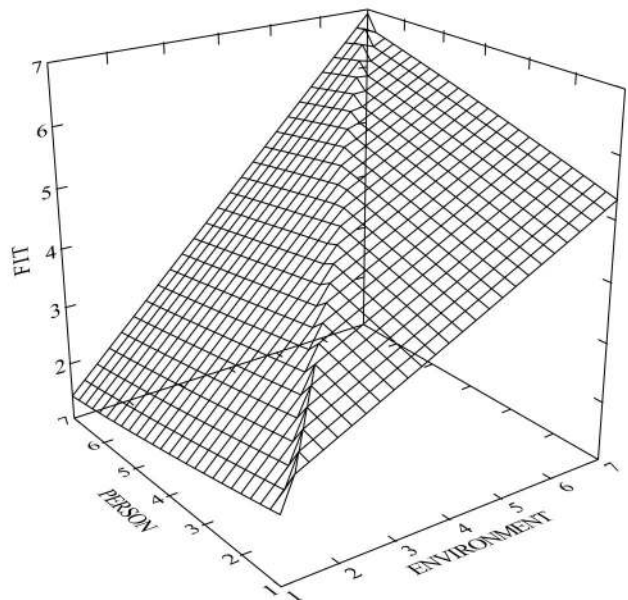


Figure 4. Relationship between atomistic and molar fit.

which served as the target and which served as the referent, or standard of comparison (Tversky, 1977). These findings are consistent with research on social comparison indicating that, when making social comparative judgments, people give greater weight to the target than the referent of the comparison (Chambers &

Windschitl, 2004). Our findings extend this research to judgments of needs-supplies fit and demonstrate its relevance to the phenomenology of P-E fit.

Second, results for the molar approach suggested that, when the environment exceeded the person, perceived fit increased for job

Table 6
Determinants of the Relationships Among the Approaches

Variable	Importance		Familiarity		Concreteness		Order		Measurement error	
	Low	High	Low	High	Low	High	After	Before	Present	Absent
Atomistic and molecular										
Autonomy	D	E	R	R	D	na	D	E	D	R
Pay	—	D	D	D	na	D	D	D	D	D
Prestige	—	D	R	D	D	na	D	D	D	D
Span of control	R	R	R	R	na	R	R	R	R	E
Supervision	R	E	E	R	R	na	E	E	R	E
Travel	D	D	E	D	na	D	D	D	D	D
Vacation	D	R	D	E	na	D	D	R	D	R
Variety	D	D	—	D	D	na	D	E	D	D
Molecular and molar										
Autonomy	—	—	—	—	—	na	—	—	—	—
Pay	—	—	—	—	na	—	—	—	—	—
Prestige	—	—	R	—	—	na	—	—	—	—
Span of control	D	—	R	R	na	R	—	R	R	R
Supervision	R	R	R	R	R	na	R	—	R	R
Travel	D	—	R	—	na	D	—	R	D	D
Vacation	—	—	—	—	na	—	—	—	—	—
Variety	—	—	—	—	—	na	—	—	—	—
Atomistic and molar										
Autonomy	—	—	—	—	—	na	—	—	—	—
Pay	—	—	—	—	na	—	—	—	—	—
Prestige	—	—	—	—	—	na	—	—	—	—
Span of control	—	—	—	—	na	—	—	—	—	—
Supervision	—	—	R	—	—	na	—	R	—	—
Travel	R	—	D	D	na	D	—	R	D	D
Vacation	—	—	—	—	na	—	—	—	—	—
Variety	—	—	—	—	—	na	—	—	—	—

Note. Table entries indicate whether the conditions were satisfied for directional (D), relative (R), or exact (E) correspondence. A dash indicates that conditions were not met for either directional, relative, or exact correspondence. na = not applicable.

dimensions that are normatively desirable (e.g., pay, vacation time, autonomy) and decreased for dimensions in which a moderate amount might be considered optimal (e.g., span of control, travel, supervision). This pattern is what would be expected if the dependent variable was satisfaction rather than perceived fit. We pursued this notion using a subsample of 188 respondents who rated their anticipated satisfaction with the target job on the eight job dimensions. Eight confirmatory factor analyses, one for each job dimension, yielded high correlations between the perceived fit and satisfaction factors, averaging .73 and ranging from .56 to .85. We also conducted multivariate regression analyses (Dwyer, 1983)

using perceived fit and satisfaction as dependent variables and the atomistic predictors in Equation 6 as independent variables. Differences in coefficients across the dependent variables were tested to determine whether the perceived person and environment exhibited similar relationships with perceived fit and satisfaction. Results indicated that the coefficients did not significantly differ for four job dimensions, and for two of the remaining dimensions, the same pattern of coefficients was found (i.e., all significant coefficients were the same sign). Similar analyses using the molecular predictors in Equation 5 as independent variables indicated that coefficients for equations predicting perceived fit and satis-

Table 7
Mean Ratings From Written Protocols

Variable	Atomistic	Molecular	Molar
Environment	0.325 _{a,c} **	0.244 _{b,c} **	0.198 _{b,c} **
Person	0.324 _{a,c} **	0.261 _{b,c} **	0.212 _{b,c} **
Discrepancy between person and environment	0.479 _{a,d} **	0.513 _{a,d} **	0.234 _{b,c} **
Fit between person and environment	0.029 _{a,c} **	0.035 _{a,e} **	0.300 _{b,d} **

Note. Table entries are mean ratings of comments reflecting the environment, the person, the perceived discrepancy between the environment and person, and the perceived fit between the environment and person for the atomistic, molecular, and molar approaches. Subscripts are based on significance tests for comparisons between means. The first subscript represents comparisons within each row, and the second subscript represents comparisons within each column. For both cases, different subscripts indicate significant differences between means ($p < .05$).

** $p < .01$.

faction did not significantly differ for five job dimensions, and the remaining three dimensions yielded the same pattern of coefficients. These results suggest that perceived fit and satisfaction may both reflect affective responses such that, when people indicate that they fit the environment, they are not reporting the result of a comparison process but instead are effectively saying they are satisfied with the environment.

The foregoing analyses reinforce the conclusion that, when people make molecular and molar judgments, they do not systematically combine atomistic perceptions of the environment and person. However, atomistic perceptions are themselves subjective and therefore may be less straightforward than they appear. For instance, research has shown that perceptions reported in absolute terms can actually reflect comparisons with some implicit standard (Helson, 1964; Parducci, 1968). Hence, when forming atomistic perceptions, people might compare the person and environment to one another or invoke some other standard of comparison, such as the past, the future, or referent others. This notion is supported by findings from our written protocols, which indicated that respondents compared the environment and person even when asked to rate them separately in absolute terms. Hence, atomistic perceptions of the person and environment might reflect implicit comparisons, which would further complicate their relationships with molecular and molar judgments of P-E fit (Edwards et al., 1998; R. V. Harrison, 1978). Further research is needed to clarify the meaning of atomistic perceptions of the person and environment.

Limitations

This study has several limitations. First, our research questions required the use of self-report measures, which were administered on a single occasion. Although self-report measures have limitations (Podsakoff et al., 2003), they were appropriate for the subjective phenomena we investigated (Crampton & Wagner, 1994; Spector, 1994). Furthermore, using a single method of measurement held constant factors other than the approach to fit underlying each measure. In addition, collecting data on a single occasion ensured that each measure referred to the same subjective experience. Had we collected data on different occasions, the relationships among the measures could have been affected by recall errors or changes in the perceived environment or person. The fact that the data were collected with a single method on one occasion makes the inconsistent relationships among the approaches even more striking.

Second, although our respondents answered questions in reference to actual jobs for which they had interviewed, they were not employed in these jobs at the time of the study. On one hand, it was advantageous that respondents were actively engaged in job choice decisions, because they were focused on issues pertaining to fit and could therefore report authentic fit judgments. Moreover, sampling respondents who were not employed in their referent job avoided range restriction due to self-selection into jobs based on P-E fit and created variance in familiarity with the job, which was needed to test the moderating effects of familiarity. On the other hand, our results might have differed if the respondents had been working in their referent jobs because they might have been more confident in their beliefs about the job. Future research should examine the relationships among the approaches using data from employed respondents with varying degrees of tenure and at varying career stages. Perhaps the relationships among the approaches

become more systematic as people become more experienced with their jobs and develop greater self-insight as they mature. These intriguing issues merit further investigation.

Third, we focused on needs-supplies fit to the exclusion of demands-abilities fit and supplementary fit (Dawis & Lofquist, 1984; French et al., 1982; Kristof, 1996; Muchinsky & Monahan, 1987). Needs-supplies fit is widely studied and provides a useful starting point to examine the phenomenology of P-E fit. Nonetheless, additional research is needed to determine whether the relationships among the atomistic, molecular, and molar approaches depend on the type of fit under consideration. If our results reflect basic processes underlying similarity and comparative judgments, then they are likely to generalize across needs-supplies fit, demands-abilities fit, and supplementary fit. We also examined needs-supplies fit in reference to specific job dimensions. Some studies, particularly those that use molar measures, assess fit with the job or organization as a whole (Cable & DeRue, 2002; Cable & Judge, 1997; Kristof-Brown, 2000; Saks & Ashforth, 1997). In principle, responses to these measures involve two cognitive steps, one in which the person and environment are compared on specific dimensions, and another in which these comparisons are combined into summary judgments of perceived fit. Our study provides evidence concerning the first step of this process, and research into the second step would further enhance our understanding of the phenomenology of P-E fit.

Implications for Person-Environment Fit Research

Despite these limitations, this study has important implications for P-E fit research. First, the atomistic, molecular, and molar approaches to P-E fit should be considered theoretically and empirically distinct. Our findings show that the approaches are not interchangeable, and treating them as such will hinder the accumulation of knowledge in P-E fit research. Second, research is needed to clarify the meaning of atomistic, molecular, and molar perceptions of P-E fit. Our results indicate that molecular perceptions represent an unequally weighted comparison of the perceived person and environment, and molar perceptions may signify affect more than the judged match of the perceived person and environment. In addition, atomistic perceptions may evoke comparisons of the person and environment to psychological or social standards. Further research is needed to shed light on the subjective experience of atomistic, molecular, and molar P-E fit. Third, studies should investigate the mechanisms linking atomistic, molecular, and molar perceptions of P-E fit. A core premise of virtually all P-E fit theories is that the person and environment are subjectively compared to yield perceptions of P-E fit. However, this comparison process constitutes a theoretical black box that has been largely neglected, perhaps because the comparison is considered simple and straightforward. To the contrary, our results indicate that the phenomenology of P-E fit is subtle and complex. Thus, theories of P-E fit should incorporate mechanisms linking the perceived person and environment to perceived P-E fit, and empirical research should investigate these mechanisms and the conditions that influence them.

Finally, researchers using the atomistic, molecular, or molar approach should carefully consider how their approach relates to the other two approaches. One possible response to the weak correspondence among the approaches is to adopt one approach and disregard the others. For instance, researchers who adopt the

molar approach might focus solely on perceived P-E fit and ignore its weak relationships with the environment and person. This response would evade critical questions regarding the meaning of perceived P-E fit. Put simply, if perceived P-E fit does not represent the match between the perceived person and environment, then what *does* it represent? Likewise, researchers who adopt the atomistic approach might assess the perceived person and environment and assume they are subjectively compared to produce perceived P-E fit and its attendant outcomes. Again, this tactic would sidestep crucial questions about the process by which the perceived person and environment translate into the subjective experience of P-E fit. In short, for each approach to P-E fit, its correspondence with the other approaches raises fundamental questions, and these questions should not be avoided by adopting one approach and disregarding the others. Rather, these questions should be confronted and answered, as they concern the very meaning of P-E fit as a theoretical, empirical, and psychological construct. Answers to these questions must be obtained to meaningfully interpret research that adopts any of the three approaches to P-E fit. Pursuing these questions represents an important opportunity for P-E fit researchers and will help uncover what lies within the phenomenology of P-E fit.

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Appendix

Items and Stems Used to Assess the Three Approaches to Fit

Pay

- Salary level
- The opportunity to become financially wealthy
- The amount of pay

Span of Control

- Having subordinates report to me
- Being in charge of people
- Having people report to me as their boss

Travel

- Work-related travel
- Taking business trips
- Working out of town

Vacation

- Time off from work
- Vacation time
- Paid days off

Autonomy

- Doing my work in my own way
- Determining the way my work is done
- Being able to make my own decisions

Supervision

- A supervisor who keeps close track of my work
- A supervisor who checks my work carefully
- A supervisor who monitors my performance

Prestige

- Having others consider my work important
- Obtaining status in the eyes of others
- Being looked up to by others

Variety

- Doing a variety of things
- Doing something different every day
- Doing many different things on the job

Atomistic Stem

These questions focus on the characteristics of your reference job. For each characteristic, we would like you to answer two different questions. These questions are:

1. How much of the characteristic is present in your *reference job*?
2. How much of the characteristic do you *personally* feel is an *adequate* amount. Some people prefer more or less of some job characteristics than others—we want to know how much *you personally* feel is *adequate*.

Molecular Stem

Environment relative to person. These questions focus on the characteristics of your reference job. Please tell us how much of each characteristic is present *relative to* the amount you personally feel is adequate. Some people prefer more or less of some job characteristics than others, so please focus on how much *you personally* feel is *adequate*. To answer each question, use any number from -3 to $+3$, with -3 meaning “much less than adequate” and $+3$ meaning “much more than adequate.” Remember, “0” means that your reference job provides an *adequate* amount of that characteristic.

Person relative to environment. These questions focus on the characteristics of your reference job. For each question, please tell us how much of each characteristic you want *relative to* the amount in your reference job. By *want*, we mean *the amount you personally think is adequate*. Answer each question using any number from -3 to $+3$, with -3 meaning “I want much less of this characteristic” and $+3$ meaning “I want much more of this characteristic.” Remember, “0” means the amount of a characteristic provided by your reference job is equal to the amount you would personally want.

Molar Stem

These questions concern the characteristics of your reference job. We want to know how well the amount of each characteristic in your reference job *fits* with what you want from a job. By *want*, we mean *the amount you personally think is adequate*. Use any number from 1 to 7, with 1 meaning “no fit” and 7 meaning “complete fit.”

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