

# Ethical Fit, Diversity, and Attrition: Behavioral Evidence from Emissions Inspections

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## Abstract

In this paper we explore how person-organization (P-O) ethical fit affects the tenure of employees. We argue that the ethical misfit between employees and their organization is asymmetric, such that one direction can have a stronger effect on attrition than the other. We also present the role that ethical diversity within the organization can have in mediating this effect through potential person-group (P-G) fit in subgroups or subcultures. Using a unique dataset of over 6 million vehicle emissions tests, we identify pre-hiring levels of testing fraud for individual inspectors and facilities, finding that the P-O ethical misfit strongly influences the longevity of tenure. Furthermore, we show that the effects of misfit on attrition are asymmetric, and that ethical diversity also influences attrition. We further argue that using pre-hire behavioral data, when available, can be an important methodology in understanding the role of fit in performance and attrition.

*Keywords:* Unethical behavior; Ethics; Deviance; Matching; Person-Organization Fit; Person-Environment Fit

Both scholars and managers recognize that the fit between an organization and its individual members can be a critical determinant of job satisfaction, tenure, and performance. As noted by Schneider (2001), “of all the issues in psychology that have fascinated scholars and practitioners alike, none has been more pervasive than the one concerning the fit of person and environment” (p. 141). This person-environment (P-E) fit can include an individual’s fit with their job, their group, or their entire organization. The importance of person-organization (P-O) fit, one dimension of P-E fit, can be traced back to Pervin (1968). Schneider’s (1987) Attraction-Selection-Attrition framework, further developed by Chatman (1989, 1991), O’Reilly, Chatman, and Caldwell (1991) and others, formalized how this fit can affect how individuals decide which organizations to pursue, which organizations hire them, and how long that relationship ultimately endures.<sup>1</sup> Parallel work in sociology (Fernandez, Castilla, and Moore 2000, Castilla 2005) and economics (Jovanovic 1979, Sicilian 1995) has also highlighted the importance of employer/employee match in hiring in determining productivity and turnover, with the literature on deviance similarly presenting the primarily negative implications of individual behavioral departures from organizational norms (Warren 2003).

One major component of this compatibility is ethical values and behavior, which can be engrained in the norms and policies of the organization, expressed or demonstrated through peers, and heavily entrenched in the relatively static values of individual belief systems (Ford and Richardson 1994). Studies on business ethics have argued that incongruence between the personal values of employer and employee can have detrimental effects on both parties that lead to greater attrition through voluntary or involuntary termination (Hunt, Wood, and Chonko 1989, Laufer and Robertson 1997, Valentine et al. 2002). Employees may voluntarily leave due to decreased job satisfaction (Boxx, Odom, and Dunn, 1991; Bretz and Judge 1994, Chatman 1991, Vancouver and Schmitt 1991), or they may be terminated due to the detrimental consequences to the organization of their violations of laws or regulations (Raelin 1984, Robinson and Bennett 1995, Bennett and Robinson 2000). The norms and rules of the employer may

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<sup>1</sup> For a more comprehensive review of this literature, see Sekiguchi (2004), Kristof-Brown et al. (2005), and Valentine et al. (2002).

influence worker behavior, but the extent of these ethical spillovers is known to be limited (Pierce and Snyder 2008). The incongruence between organizational behavioral norms and deviant employees reflects an ethical misfit, where worker disposition conflicts with firm expectations for employee behavior. Yet as Warren (2003) explains, not all deviant behavior is identical, with organizationally-deviant behaviors such as whistle-blowing reflecting highly ethical employees in organizations where ethical behavior is discouraged. Such ethical breaking of organizational rules may occur in shadow organizations like organized crime or corrupt corporations like Tyco, Enron, and Boeing. Although such behavior may be ethical and socially beneficial, its cost to the organization may yield reprisals to the employee (Dworkin and Baucus 1998) and thus increase attrition as well.

Given the multiple types of ethical misfit and their relevance to several literatures, we must wonder how their effects on employee attrition differ. As Edwards and Rothbard (1999) explain, the argument that misfit is unilaterally harmful is overly simplistic. Their work, along with later work by Jansen and Kristof-Brown (2005), argues that misfit can produce asymmetric consequences based on whether the individual's values or attitudes exceed or fall short of organizational levels. Similarly to their concept of differential misfit, the effects of this incongruence between organizations and individuals may have asymmetric consequences for attrition. In some organizations, an employee being too ethical may be less of a problem than being too unethical, particularly under the threat of criminal or regulatory punishment or where reputation is critical to the firm's customers. Examples may include child care services, accounting, or security services. The opposite may be true in other firms, where highly ethical behavior such as honesty might reduce firm profitability. Examples of these situations abound in the sales world, where the selling of subprime mortgages, used cars, penny stocks, and life insurance are notorious as settings for profitably unethical behavior. The implications of directional misfit may depend on firm profit incentives, organizational norms, or the threat of criminal or regulatory punishment.

Similarly, we must also wonder if a unidimensional concept of organizational ethics is appropriate for predicting how P-O fit influences attrition. Two organizations with identical mean levels of ethics may have very different variances, with one firm employing people with uniform levels of

ethics, while another has a diversity of values. This variation of individual ethics within an organization may reflect weak norms, tolerance for diversity of values, or may improve job satisfaction for the deviant worker by allowing them to form homophilous subgroups with ethically similar workers (McPherson and Smith-Lovin 1987). Work on organizational demography has found that diversity can increase average turnover in organizations (Carroll and Harrison 1998, Sorensen 2000), but there is little theory or evidence on how this differentially affects those who deviate from ethical norms. Subcultures or subgroups may form in larger ethically diverse organizations, allowing workers to sort into those groups with which they fit. While this effect may be limited in smaller firms, more diverse organizations may avoid attrition by providing a better person-group fit.

In this paper we examine how both the nature and diversity of ethical norms within organizations influence employee attrition. We first explore how ethical fit can be defined through the behavior of the employee and her coworkers. This behavior-based ethical fit represents objective fit, independent of subjective individual biases (Edwards, Caplan, and Harrison 1998). We develop hypotheses on how ethical misfit, or individual behavioral deviance, can be multidirectional, with asymmetric influence on employee attrition. We also argue that a second dimension, diversity of ethical behavior within the organization, can mitigate this attrition effect, as the individual worker fits with other ethical deviants within the organization.<sup>2</sup> We propose, similar to Edwards and Rothbard (1999), that the relationship between P-O ethical fit and outcomes such as attrition is multidirectional and multidimensional.

We empirically study the effects of P-O ethical fit in the context of the vehicle emissions testing market, where widespread anecdotal evidence and state enforcement records demonstrate the potential for fraudulent testing behavior in private firms (Hubbard 1998, 2002).<sup>3</sup> Identifying unethical or illegal

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<sup>2</sup> Throughout this paper, we use the term “deviant” consistent with Robinson and Bennett, who define deviance in organizations as “voluntary behavior that violates significant organizational norms and in so doing threatens the well-being of an organization its members or both.” (1995: 557) As Warren (2003) notes, such deviant behavior can be socially constructive.

<sup>3</sup> Throughout this paper, we define the act of fraudulently passing a polluting vehicle as unethical, consistent with the Jones (1991) definition of unethical behavior as “either illegal or morally unacceptable to the larger community” (p. 367). The ethics of emissions testing fraud seems clear: this behavior is not only illegal, but is socially harmful as well. Mobile vehicle emissions have been repeatedly shown to aggravate respiratory problems, particularly in

behavior in firms is a difficult endeavor, as firms aggressively hide such behavior for fear of legal and financial repercussions. We are able to peel back this veil of secrecy by using a database of over 6 million emissions tests from a U.S. metropolitan area in 2001-2004, and find strong evidence that person-organization ethical misfit increases attrition. Inspectors whose prior experience reflects different ethical protocols than their new coworkers have shorter tenures than do inspectors who fit. Furthermore, we find evidence that when misfit is extreme, it is more likely to increase attrition when the inspector is less ethical than the organization. This result is consistent with the threat that extremely lenient inspectors might bring regulatory or legal action against inspection facilities. We also find that ethical diversity increases overall attrition, but appears to have little effect in moderating attrition for misfit inspectors. We interpret this lack of moderation as reflecting vehicle emissions facilities being too small for internal group formation.

We believe this paper makes important theoretical, empirical, and methodological contributions to the literatures on P-O fit, deviance, matching, and ethics. This paper contributes theoretically by integrating these literatures to explore the importance of the direction of ethical misfit in employee attrition. Directional misfit is an aspect not yet incorporated in the literature on ethical deviance and misfit, despite evidence that misfit can have differential effects on worker stress and satisfaction (Edwards and Rothbard 1999, Jansen and Kristof-Brown 2005). We explain that this directional misfit matters not only for value-based incongruence, but also for behavioral misfit, and our empirical setting provides a clear example of an industry where the direction of fit matters. Furthermore, we contribute theoretically by introducing the potential role of ethical diversity in mitigating the attrition effect of ethical misfit. Ethical diversity's relationship with P-O fit has major implications for the study of subgroups and subcultures within organizations, and suggests that person-group fit may be an important moderator of organizational level effects on job satisfaction, performance, and ultimately attrition.

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children, and are partly responsible for acid rain and other environmental problems. For extrapolation on this, see <http://www.epa.gov/otaq/inventory/overview/index.htm> or "Evaluating vehicle emissions inspection and maintenance programs" (2001). Committee on Vehicle Emission Inspection and Maintenance Programs, National Research Council.

Empirically, this paper makes a major contribution to the literature by robustly estimating how the misfit of individuals and firms on the specific dimension of ethical behavior can ultimately influence attrition. Despite hundreds of studies on fit, little evidence exists supporting this relationship (Kristof-Brown et al. 2005), and the results are inconsistent and suffer from subjectivity bias common in self-report data (Schwarz 1999, Bertrand and Mullainathan 2001). We therefore believe that an innovative and robust empirical test of such a widely-used theory remains of great value to the literature, particularly on the dimension of ethics. While we are limited in our ability to identify the social and economic processes through which this attrition occurs, we feel that the unique ability of our data to identify pre-hire ethical misfit based on behavior presents a significant contribution to this literature. Methodologically, we believe this paper shows the potential for using improved computational power on large-scale behavioral datasets to identify the importance of P-E fit and for measuring ethics and deviance within organizations more generally. The true potential of this methodology lies in the pairing of behavioral data with richer survey, observational, and descriptive data gathering techniques.

## **THEORY DEVELOPMENT AND HYPOTHESES**

### Influences on unethical behavior: organizational context and disposition

The ethics of employee behavior is the product of two very different influences: organizational context and persistent dispositional factors. Several scholars in ethics suggest that unethical behavior results from a complex interaction of both factors (e.g., Trevino 1986, Hunt & Vitelli 1986), with Jones (1991) proposing an “issue-contingent” model in which features of moral issues interact with both individual and organizational elements to influence ethical decision making. Separating the influence of these factors is critical toward understanding when employees will be able to conform to organizational norms, and when any conflicts between individual and organizational ethics might persist.

The first of these factors, organizational context, can influence the ethics of employee behavior through the incentives, rules, and culture of the workplace. Considerable evidence and theory highlights

the role of organizational and societal variables in unethical behavior, referring to this influence as the effect of “bad barrels” on employee behavior (Trevino and Youngblood 1990). These bad barrels may be corrupt organizations, where the organization benefits from unethical behavior, or organizations of corrupt individuals, where individuals act self-interestedly for personal gain (Pinto, Leana, and Pil 2008). Studies have identified a number of contextual factors that appear to promote or inhibit intentional unethical behavior, such as the use of incentives (Flannery and May 2000, Schweitzer and Croson 1999, Watts and Zimmerman 1983, Bertrand et al. 2006), conflicts of interest (Cain et al. 2005), and codes of ethics (Weaver, Trevino & Cochran 1999, Duggan and Levitt 2002). Individual behavior may converge toward organizational norms, with individual ethics drifting over time due to cultural or economic influences (Gino and Bazerman 2009). Pierce and Snyder (2008) refer to this organizational influence on unethical behavior as “ethical spillovers”, while Ashforth and Anand (2003) refer to this process as “the normalization of corruption”, where corruption can be embedded in the organizations structure and may disseminate to employees across time.

Yet individual ethics are not wholly determined by the organization. A second factor, persistent dispositional ethics, is based in the inherent characteristics either born into the worker or developed through a lifetime of education and training. These dispositional factors are resilient through changes in employment. The dominant view in the ethics and economics literature considers individual wrongdoing as intentional, often affecting just “a few bad apples” (Simpson 1987). According to this view, ethical misconduct is the product of intentions and deliberate choices based in the disposition and preferences of the individual worker. Indeed, research has shown that both innate individual factors (e.g., gender, age, and nationality) and malleable personal characteristics (e.g., ethical framework, stage of moral development, religion, employment, and concern for self-presentation) influence ethical behavior (Fisman and Miguel 2007, Loe, Ferrell & Mansfield 2000, Ford & Richardson 1994), although the results from this body of work at times have been contradictory. For example, while some studies have found that females are likely to act more ethically than males (Ruegger and King 1992), other work has found no impact of gender on ethical behavior (Serwinek 1992).

While most research assumes unethical behavior to be conscious and intentional, research on implicit biases suggests dispositional factors may be based in unconscious biases in ethically relevant domains (Banaji et al. 2003, Bazerman & Banaji 2004). While people may believe their own behavior to be ethical and unbiased, they fall prey to implicit forms of prejudice, in-group favoritism, conflicts of interest, and the tendency to over-claim credit (Banaji et al. 2003). Consequently, an individual's disposition toward unethical behavior may be influenced by conscious values and preferences, as well as unconscious biases unrecognized by the decision-maker.

### The persistence of ethical misfit

When the organizational influence on individuals' ethical decisions is strong, then employees can be molded and integrated into the ethical framework of the firm. Yet recent empirical work by Pierce and Snyder (2008) suggests these ethical spillovers are limited, showing that only 10-20% of the ethics of employee behavior can be explained by the ethics of the firm. This suggests that a large part of any ethical misfit at hiring will persist throughout the employment relationship. Unless job-seekers find firms that perfectly fit their own ethics, they will suffer at least some level of ethical misfit in any organization. Ethical fit between organizations and employees will likely vary both within and across firms, as some workers are matched to ethically compatible environments and others to conflicting ones. If individuals' personal ethics are persistent as they change employers, then this immutability will inevitably lead to some level of ethical incongruence in any employment position, and has distinct implications for employee performance and ultimately attrition.

P-O ethical misfit can influence attrition in two distinct ways. First, ethical misfit may reduce the value of the employee to the firm, and consequently increase the likelihood of termination. Firms with strict norms of legal compliance, whether due to market forces, government oversight, or culture, will suffer when employing individuals who engage in unethical and illegal behavior. Research on deviant behavior has examined how unethical behavior can directly harm firms through theft and embezzlement (Bennett and Robinson 2000; Raelin 1984), and agency theorists in economics have demonstrated that when principals (employers) have less information than agents (employees) and the incentives of these

two groups are not aligned, agents behave in a self-interested manner that leads them to deceive their principals (Holstrom 1979). Studies in the organization literature have also focused on how intrinsic motivation from situational factors might lead employees to engage in unethical behavior to harm their organizations (Bies & Tripp 1996), to revenge unfair treatment (Greenberg 1993; Gino and Pierce 2009a), to help others (Gino and Pierce 2009b), or to make opportunistic gains (Brief, Buttram, and Dukerich 2001, Lewicki, Poland, Minton & Sheppard 1997).

In firms where legal compliance is costly or illegal behavior is financially rewarded, highly ethical employees will hurt the organization. Ethical behavior such as honesty may lead to fewer sales and lower prices, although this effect may be mitigated by long-term reputation gains from honesty. Unlike much of the work on legal deviance (Baucus and Baucus 1997), behavior may not deviate from societal norms but may be deviant within the organization and ultimately costly. This is often the case with whistleblowers, who may hurt or help organizations through their misfit with ethical norms (Miceli and Near 1992). In either situation, ethical misfit between person and organization hurts profitability and will tend to encourage termination of employment.

The second mechanism through which ethical misfit might increase attrition is by decreasing the value of the job to the employee, and thereby leading to voluntary resignation. Highly ethical employees may voluntarily leave unethical organizations either due to low organizational commitment (Hunt, Wood, and Chonko 1989, Laufer and Robertson 1997, Valentine et al. 2002). While such misfit employees may decide to stay and voice dissent, act as whistle-blowers (Near and Miceli 1987), or engage in functional disobedience (Warren 2003), they are more likely to leave the organization for a better ethical fit. Ethically misfit employees may also suffer from the inability to compete with those willing to violate laws or regulations. Under high-powered incentives such as sales commissions, dishonesty may produce greater payoffs, and the unwillingness to act unethically may generate differentially lower income for an ethical individual. Similarly, those employees who abhor strict legal compliance or whose competitive advantage lies in illegal or unethical activities will be less likely to stay in firms with strict norms of legal

compliance. Finally, ethically misfit workers may leave due to worse prospects for promotion, as their superiors may prefer to promote those with similar disposition (Ponemon 1992).

The empirical literature connecting P-O fit with tenure is inconclusive, particularly with regard to the dimension of unethical behavior. Many studies have found significant correlations between P-O fit and those factors affecting employee tenure. Vancouver and Schmitt (1991) found P-O fit to be highly correlated with organizational commitment, job and organizational satisfaction, and intent to quit, although the directional causality was not fully established. This may explain why they found little correlation with tenure or turnover. Furthermore, “intent to quit” may not predict actual quitting behavior, but rather signal job dissatisfaction. While Castilla (2005) found that fit, as implied by an applicant having been referred by an existing employee, influenced call-center productivity nearly immediately after hiring, an earlier study by Fernandez, Castilla, and Moore (2000) found no effect of referrals on turnover rates. In their meta-analysis, Kristof-Brown et al. (2005) found the broader literature to support the importance of fit for employee attitudes and beliefs, but again found little evidence for the fit-attrition link. Despite this lack of evidence, existing theory suggests these known effects of fit should drive both the decision to voluntarily leave employment and termination due to lower productivity.

**Hypothesis 1:** *Ethical misfit between an individual and her organization will reduce employee tenure.*

The simple average of an organization may not be the only identifier of the effects of fit. Two organizations with identical average levels of ethics or legal compliance may have completely different variances, with one firm being homogenous and the other ethically diverse (Hunt and Hansen 2007). Would two such organizations have exactly the same effect on the employment tenure of a given individual? The evidence on the role of many other types of diversity on organizational performance and cohesion is mixed (Harrison and Klein 2007, Webber and Donahue 2001). These types of diversity include demographics (Riordan and Shore 1997, O’Reilly, Williams, and Barsade 1997, Pelled 1996), education (Jackson et al. 1991), and tenure (Sorensen 2000). But research on diversity in values (Jehn et al. 1999) and conscientiousness (Barrick et al. 1998) suggest ethical diversity may be an important

dimension as well. Organizations of individuals with very different dispositional factors, such as moral codes, can create wide variation among employees in decisions on acceptable behavior (Hunt and Hansen 2007). This ethical diversity may be apparent in how individual employees treat such common decisions as self-reporting performance, timesheets, petty theft (such as office supplies), and rigidity of length of lunch breaks. More seriously, an ethically diverse organization may have widely disparate views on lying to customers, following environmental regulations, or failing to follow safety protocols.

The impact of such ethical diversity may be severe. Existing literature suggests that diversity in organizations can reduce team rapport (O'Reilly, Snyder, and Boothe 1993), informal communication (Smith et al. 1994), teamwork and information exchange (Ancona and Caldwell 1992), and cooperation (Barsade et al. 2000). Since these precipitates of organizational diversity are all associated with attrition, we expect that ethical diversity may also reduce tenure, primarily due to job dissatisfaction and conflict. Sociologists and labor economists have shown this to be true, identifying how diversity in tenure (Pfeffer 1983, Sorensen 2000) and demographics such as race, gender, and age can influence turnover (Becker 1957, Zenger and Lawrence 1989). Employees are more likely to leave diverse organizations as individual preferences for similar others lead social dissimilarity to reduce social interaction and network ties. Employees may then sort themselves into similar organizations or groups (Leonard and Levine 2006), increasing the likelihood that any initially misfit employee will leave. Ethical diversity may therefore serve as a second dimension influencing employee tenure.

**Hypothesis 2:** *Ethical diversity within an organization will reduce employee tenure.*

But the effect of ethical diversity may go further than simply reducing tenure through conflict. It may also provide a haven for individuals' misfit with the organizational mean if that organization is large enough to sustain subgroups or subcultures. While organizations with homogeneous ethics may present a strong, unified norm capable of sanctioning deviant employees (Bernstein 1992), ethically diverse organizations may provide opportunities for workers to sort into groups of ethically similar individuals (Tiebout 1956). Boisnier and Chatman (2003) argue that subcultures can exist even within strong organizational cultures, such that groups of misfit individuals might support one another. Similarly,

employees joining large organizations may be placed in different working groups, with different subcultures and values. Individuals may compare the ethics of their behavior with others at a group or subgroup level rather than at the organization level, with this group level serving as their locus of analysis on unethical decisions (Victor and Cullen 1988).

If the organization is large enough to accommodate multiple groups, ethical diversity may serve this secondary role in allowing individuals to form groups based on similar values or behavior. Individuals misfit with the organization may find greater job satisfaction through ethical fit with their group, an event more likely in an ethically diverse organization. We may therefore expect that ethical misfit reduces the speed of attrition when the organization is ethically more diverse, either through increased job satisfaction or organizational tolerance for deviance from organizational means. In larger organizations, this may be represented by separate group ethical cultures, where person-group fit becomes a more relevant construct than person-organization fit. In small organizations, however, the formation of groups and subgroups with separate ethical climates or cultures may be difficult. Research has shown that groups below sizes of twelve members are unlikely to break into factions (Hare 1952). Since organizations must be of sufficient size to allow for the formation of stable subgroups with separate ethical climate or culture, it is unlikely that diversity will provide any protection or satisfaction to new employees misfit at the organizational level. Consequently, the expected moderating effect of ethical diversity on the misfit/tenure relationship depends on some minimum sufficient firm size.

**Hypothesis 3a:** *Ethical diversity will moderate the relationship between ethical misfit and tenure in large organizations.*

**Hypothesis 3b:** *Ethical diversity will not moderate the relationship between ethical misfit and tenure among small organizations.*

While the direction of person-organization fit is rarely discussed, this dimension may be critically important for predicting employment tenure and workplace behavior. In an organization where even the slightest legal non-compliance can result in massive fines, penalties, or reputation, a slightly less ethical employee may be much more costly than a slightly more ethical one. Similarly, where legal penalties are

unlikely and profits from unethical behavior high, a marginally less ethical employee may be costless, while a slightly more ethical one may reduce profits. Past work on overqualification (Johnson and Johnson 1999) and relative deprivation and underemployment (Feldman, Leana, and Bolino 2002) have addressed the importance of direction, but have studied it unidirectionally. Recent work on differential misfit has both argued and empirically shown that the influence of misfit on a given dimension may depend on whether it is the person or environment that is at a higher level (Edwards 1996, Edwards and Rothbard 1999). Jansen and Kristof-Brown (2005), for example, show that misfit between the work pace of an individual and her group has differential psychological effects depending on who held the faster rate. Similarly, the effects of ethical misfit may also be bi-directional, with some workers less ethical than their organization and others exceeding organizational ethics. The question of which direction produces stronger effects on tenure is a complicated one, because it involves both the immediate financial incentives of firm profitability and the potential financial and legal ramifications of violation of laws and regulations. The magnitude of this effect in each direction will therefore be driven by the direction-specific costs of deviant behavior within the organization.

**Hypothesis 4:** *Ethical misfit will asymmetrically influence employee tenure, based on the legal, regulatory, and financial implications of unethical behavior for the firm.*

## **Empirical Setting**

Empirical work on P-E fit has been fruitful on many dimensions, but there are several crucial gaps in this literature. Survey-based empirical work has shown important correlations between P-E fit and job satisfaction (Boxx, Odom, and Dunn 1991, Bretz and Judge 1994, Vancouver and Schmitt 1991) and various measures of performance (Bretz and Judge 1994, Downey et al. 1975, O'Reilly and Chatman 1986, Posner, 1992). And while papers have established the effect of P-O fit on the intention to quit (Chatman 1991, O'Reilly et al. 1991, Vancouver, Millsap, and Peters 1994), there is still inconclusive evidence on fit's influence on attrition. Furthermore, the empirical literature has primarily relied on self-

reported surveys and questionnaires, which present fundamental problems in measuring fit. While this data collection methodology is particularly appropriate for hard-to-observe attitudes and personality characteristics, it presents problems of respondent bias and truthfulness. The problems with self-reporting have long been recognized in economics and psychology, where some have taken rather extreme views, arguing that self-reported responses are uninformative cheap talk (Friedman 1953). While experimental evidence continues to discredit this extreme view, as Bertrand and Mullainathan (2001) explain, survey responses suffer from a variety of problems, including interpretation of questions, respondents' understanding of scales, care in answering questions, respondents not wanting to look bad, lack of true attitudes, weak self-knowledge, and cognitive dissonance. Yet as they point out, survey responses can be very informative, so long as the measurement error is sufficiently small and they are used as independent rather than dependent variables, which is consistent with their usage in studies on P-O fit. This in no way argues that survey-based methods are worthless for understanding fit. On many dimensions they can be quite informative and often represent the only method for understanding attitudes and personalities. In certain cases, however, their value may be highly limited by the problems discussed in Bertand and Mullainathan (2001), Schwarz (1999), and Presser and Stinson (1998). These problems seem to be particularly severe when attempting to assess the propensity or willingness of an employee to engage in fraudulent or illegal behavior. A more accurate measure of fit on legal compliance may be observed past behavior. If we can observe and measure legal compliance (or lack thereof) in the pre-hiring behavior of employees and firms, we can better understand how ethical misfit can influence performance and attrition.

We study ethical misfit in the market context of vehicle emissions testing. The vehicle emissions testing market has tremendous potential for unethical behavior. While inspectors are legally required to follow strict testing procedures, they have numerous opportunities to diverge from this course for financial gain. With the dynamometer-based tailpipe testing still common in many areas, skilled mechanics can make nearly all vehicles pass through a number of temporary mechanical adjustments that

do not address the underlying causes of the excess pollution.<sup>4</sup> Even the worst cars can be certified clean though substituting other cars during the testing procedure. Not only do inspectors have opportunities to cheat, they will often have strong incentives. As Hubbard (2002) addressed in California, reputation, repeat business, and other repairs all provide incentives in certain facilities. Outright bribes and shopping around by customers can furthermore motivate inspectors to help customers pass even with grossly polluting vehicles.

Prior studies have already examined the existence and motivation for emissions testing fraud. Hubbard (1998) identified the presence of moral hazard in the California vehicle inspection market by comparing passage rates of cars inspected by private firms with those conducted by the state in voluntary roadside tests. The motivation behind much of this leniency was identified by Hubbard (2002), who demonstrated that customers are more likely to return to inspection stations that have previously passed them. Firms in this market tend to profit from unethical behavior, since fraudulently passing their customers' older cars ensures they will remain on the road and in need of other mechanical repairs. Customers who fail emissions tests buy new cars, which need little if any repair work. Furthermore, the state can do little to enforce that the testing is being carried out legally, short of engaging in covert investigations.<sup>5</sup> Only when facilities or inspectors are passing nearly every vehicle do regulatory agencies carefully investigate. Consequently, since facilities have strong incentives to fraudulently pass older cars, they are likely to encourage this action in their employees. Ethical employees may reduce profits, and therefore may be either forced out or pressured to leave. Only highly unethical inspectors fundamentally put the firms at risk for regulatory punishment.

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<sup>4</sup> If a driver has a registered vehicle weighing less than 8500 lbs., they must get it tested for hydrocarbons (HC), carbon monoxide (CO), and nitrogen oxide (NOx). If their car is newer than 1981, they must choose a testing station at which to conduct the test. These testing facilities will be private companies, but will be licensed by the state. Vehicles will receive one of two tests: dynamometer and idle. In the idle test, the probe is inserted into the tailpipe while the car engine idles. This test is much easier to pass, as it doesn't measure NOx levels. The dynamometer test, which requires the vehicle to run on a sort of "treadmill", measure exhaust at different engine RPM's.

<sup>5</sup> Discussions with the state agency suggest that covert audits are very rare, due to the unwillingness of state workers to participate in them.

## DATA

Our dataset comes from the department of motor vehicles (DMV) of a large northern state. It contains all vehicle inspections conducted between 2001 and 2004 for gasoline-powered vehicles under 8500 lbs,<sup>6</sup> and includes vehicles owned by individuals, corporations, fleets, and government agencies. Only those vehicles in dense urban areas are included, as these are the only vehicles that required our specific testing procedure during this time period. The data at the inspection level includes inspection date, the inspection time, VIN number, facility identifiers, inspector identifiers, and inspection results. These data allow us to uniquely identify vehicles, including all characteristics such as make, model, model-year, and odometer reading. Additionally, we know the name and address of the inspection station, as well as the date on which the test occurred. Finally, we can observe which inspector conducted the test through unique inspector ID's, although we do not know their names. Since we know exactly when and where the inspection took place, this allows us to follow the careers of inspectors as they change employment from one facility to another.

One major limitation of our data is that they do not identify the nature of the attrition. Inspectors who are involuntarily terminated by a facility appear identically to those who voluntarily leave. Another limitation is that we rely on observed tests to indicate continued employment. While our data represent the entire population of tests in 2001-2004, it is possible that some inspectors remain as employees while ceasing to perform inspections. The small size of most of these firms, however, makes this possibility unlikely, as employees must serve multiple roles. Censoring on both the left and right side are additional problems. Our analysis is consequently limited to those inspectors who switch stations during our time period, which means we must refrain from drawing inferences about workers with extremely long tenures.

## EMPIRICAL APPROACH AND RESULTS

### Measuring Ethical Misfit

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<sup>6</sup> Most passenger vehicles fall within this range.

Given our interest in studying person-organization fit, our unit of analysis is the employee/facility relationship. For many of the observations in our dataset we can observe the behavior of the facility and the employee before the employment relationship has begun. We create measures of ethical misfit between facilities and new employees by identifying differences between pre-hire conditional pass rates for inspectors and facilities, and then observe how this misfit predicts inspector tenure at the station. The key to our approach is to use differences in the conditional pass rates between a new inspector and a facility *prior to the move* as a measure of ethical misfit. These conditional pass rates control for any differences between the pre-hire inspection portfolios, since some inspectors work on older or higher-polluting cars than others. If an inspector passed vehicles at a much higher rate than the hiring facility (prior to hiring), this would indicate a positive ethical misfit. Similarly, if the inspector passed fewer vehicles, this would indicate a negative ethical misfit.

Our approach proceeds in two steps. The first stage is to estimate both the dispositional ethics of the employee and behavior in the hiring firm, prior to the move. We measure this pre-hire behavior by identifying how firm and inspector pass rates differ from expected pass rates, given their unique portfolios of vehicles. These fixed effects represent risk-adjusted pass rates that control for each facility's unique portfolio of cars, similar to productivity and ethics measures in the economics and management literature (Huckman and Pisano 2006, Mas and Moretti 2009). We derive a measure of misfit between the inspector and the facility through the difference between this pre-hire behavior. In the second stage we use the measure of misfit as an independent variable in a Cox proportional hazard model that predicts the tenure of the employee at the facility.

We begin by creating a sample of inspectors that switch facilities during our four-year period.<sup>7</sup> We construct this sample in a conservative manner. For an inspector to be included in this sample they must not be working at multiple facilities simultaneously. Even if an inspector moves from facility A to facility B, they are excluded from our sample if they worked at another facility during the period when

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<sup>7</sup> For a facility to be included in our sample it must perform at least 25 inspections between 2001-2004. This restriction eliminates very few facilities.

they were employed at facility B. Furthermore they are eliminated from our sample if they return to their original facility. They also must remain at the new facility at least seven days, a restriction used to exclude temporary workers from our sample. This sampling is necessary from an identification standpoint, because it is impossible to identify pre-hire behavior in individuals for whom we never observe behavior prior to joining a facility. This sampling is equivalent to past studies involving hiring, where we cannot observe those individuals who never change jobs.

For each new employee/facility pair we estimate differences in their conditional rate of passing vehicles on their behavior *prior* to joining the facility. For example, if an inspector moves from facility A to facility B, we estimate the pass rates for the inspector and facility B before the inspector moved into facility B. This is the basis for our measure of fit, identified before the relationship begins. To implement this we perform vehicle-level regressions to estimate the probability a car will pass an inspection conditional on vehicle characteristics and a dummy variable indicating whether the inspection was performed by the inspector or the facility. For instance, if prior to joining the new facility, the inspector and facility B both inspect 500 similar cars and the inspector passes more vehicles than station B. We interpret the inspector's fixed effect as their dispositional ethics, and the facility fixed effect as the organizational culture. From this we infer that the fixed differences between the inspector and facility B are differences in their willingness to assist vehicles in passing, or the ethical misfit. To estimate the inspector fixed effects at the vehicle level we use the following specification:

$$(1) \text{Pass}_{c,i,t} = \theta_i + \beta X_c + T_t$$

This regression is run separately for each employee/facility pair. Pass is a dummy variable indicating whether or not the vehicle passed. In equation (1) this difference in the pass rates between the inspector and facility is given by  $\theta_i$ , the difference between the inspector and the station they are moving into. The larger this parameter is (either positively or negatively), the greater the misfit is between the inspector and the new station. This parameter will be used to construct our misfit measures which will be used to test our hypotheses.  $X_c$  is a set of vehicle level control variables.

In equation (1) we also include a host of controls at the vehicle level that could influence whether or not the vehicle passes the inspection. To test the robustness of the results to the specification of equation (1), we use three samples for our subsequent second stage hazard rate analysis. In sample (1) we simply compare the pass rates for vehicles between the inspector and the new facility without conditioning on any vehicle characteristics. In sample (2) we condition on an odometer cubic, a make/year quadratic, a month/year quadratic, and a vehicle weight quadratic. To precisely estimate these control parameters we include additional data in equation (1) from inspections performed by facilities and inspectors other than the facility/employee pair under consideration.<sup>8</sup> Sample (3) is identical to sample (2) except that we include facility fixed effects for the additional data included in sample (2). In order to minimize noise in the data, we drop inspectors where it appears that the misfit is measured imprecisely. We do this by dropping inspectors and stations that perform less than 25 vehicle inspections and for whom the standard error on the estimate of the misfit exceeds .05. While this reduces our sample size further it serves an important identification role. The measurement precision of our independent variable can vary based on the number of pre-hire inspections and other factors. When misfit is imprecisely measured, these errors create noise in our empirical hazard rate model that reduces our ability to identify the hypothesized effects.<sup>9</sup> We recognize that there is an implicit tradeoff between measurement error and sample size. The results are robust to sensible changes in the threshold.

### Identifying the Effects of Ethical Fit

Having developed a measure of pre-hire fit in the first stage, we now test our hypotheses on how ethical fit between the firm and the inspector can influence inspector tenure. Consistent with Chatman (1991) and others, we hypothesize that inspectors who are closer fits to their new employer will tend to

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<sup>8</sup> For computational reasons, we do not conduct this with the entire sample. Rather we only include the switching inspector and the inspections performed at the station they are moving into, and a random sample of the rest of the population of inspectors to precisely estimate the control variables (such as vehicle make, car age, etc.). Experiments with sample size show us 1% of the inspectors in the population gets us very close to the population estimates, as this sample still represents a population over 30,000 vehicles.

<sup>9</sup> Note that since individual and facility ethics are defined by fixed effects in the regression, any fixed effect defined by less than 25 observations is equivalent to running OLS with less than 25 degrees of freedom.

stay with the firm longer than those whose pass rates diverge dramatically from others in the firm. To test this proposition, we estimate a Cox proportional hazard rate model of the determinants of time to exit from a facility. This model is particularly useful because it allows us to deal with the significant right hand side censoring problem that we face in the data.<sup>10</sup> The primary determinant is our ethical misfit variable, which is the absolute difference between the pre-hire fixed effects of the switching inspector and the new firm. Our Cox model is presented below:

$$(2) h_{ij}(t) = \lambda_0 \exp[\beta_1 \text{Misfit}_{ij} + \beta_2 \text{Strict}_{ij} + \beta_3 \text{Lenient}_{ij} + \beta_4 \text{Large}_{ij}]$$

The Cox model estimates the hazard rate for any inspector *i* in facility *j*. MISFIT is measured as the absolute value of the firm risk-adjusted pass rate less the inspector pass rate. STRICT is a dummy variable indicating 1 if the inspector / facility misfit exceeds five percent. For example, if an inspector passed 91% of the cars prior to joining a facility which had passed 98% of its vehicles, then STRICT would equal 1. LENIENT is a dummy variable indicating 1 if the inspector / facility misfit is less than negative five percent. If a facility passed 91% and the inspector passed 98%, then LENIENT would equal 1. LARGE is a dummy variable for firms with over 3000 inspections in the sample.<sup>11</sup> Inspectors identified as strict or lenient are the most egregiously misfit employees in our sample. Our inclusion of these inspectors using dummy variables allows for both linear and non-linear effects of misfit on attrition.

Finally, in order to measure diversity for each organization, we again use a specification similar to equation (1) to compute the pre-switch inspector fixed effects within the new firm. For example, suppose that Jim is joining a facility with two inspectors: Sara and Ryan. In the previous specification, if Jim joins the station, we simply measured misfit as the difference between Jim's pre-hire pass rate and the *average* pass rates of Sara and Ryan. In order to measure the facility's ethical diversity, we identify the

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<sup>10</sup> We operate under the assumption that if the employee was with the station during the last month of the sample that they stayed with the firm. If the employee is not with the firm during the last month of the sample the date of separation is the last inspection performed by the employee at the station.

<sup>11</sup> We chose a threshold of 3,000 because it was close to the median size of stations in the sample.

fixed effects for both Sara and Ryan *separately*. If Sara and Ryan are quite different from each other, we consider this a diverse organization. This difference is reflected in NEWSTATIONSD, which indicates the standard deviation of the peers pass rates in a given station. A larger NEWSTATIONSD implies an organization with more diverse ethics.<sup>12</sup>

Hazard Model Results:

Table 1 presents our three samples for analysis. Our first sample of 2,549 inspectors has a mean tenure of 386 days. On average each inspector performs 501 inspections during the sample period. The inspectors move from and into facilities that perform approximately 3,000 inspections on average during the sample period. While the inspectors do move to facilities that are on average larger than their previous employer, the magnitude of this difference is rather small. Approximately twelve percent of inspectors qualify as “strict”, while fifteen percent qualify as “lenient”. From this sample, 69 percent of inspectors left the focal facility during our four-year period. Our other two samples present similar statistics.

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INSERT TABLE 1 ABOUT HERE  
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We present the hazard model results from our three samples in Table 2. These models are intended to estimate Hypotheses 1 and 4, or the role of absolute and directional ethical misfit. For each sample, we present three specifications. The first column uses the absolute value of misfit and the large facility dummy. The second column replaces the absolute value of misfit with the directional misfit dummy variables representing extreme inspectors. The third column uses the absolute value of misfit and interacts it with the large facility dummy. Column (1) shows that the absolute value of the misfit increases the probability of a quicker separation from the firm. This correlation, consistent with Hypothesis 1, is quite strong and statistically significant for samples 1 and 3. Sample 2 is directionally consistent but less strongly identified.

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<sup>12</sup> We construct this measure of diversity using the specification given by sample 2

While these results support Hypothesis 1, they do not test for asymmetries. More specifically, we cannot see if this effect is different for inspectors who are much stricter in their pass rates than their new employers, compared to those who are much more lenient. To examine this effect in column (2) we create dummy variables equal to 1 if, conditional on vehicle characteristics, the inspector passes at least five percent more or less of their vehicles relative to the facility they join. The coefficients on these dummies should represent the attrition of strongly misfit inspectors, relative to all those whose misfits are less than five percent. In columns (2), (4), and (6) we consistently find that the most lenient inspectors are more likely to exit the firm. Conversely, we find that the most strict inspectors are only more likely to leave the firm in our third sample, and this effect is weakly identified. We can reject the equality of the lenient and strict coefficients at the one percent confidence level. This implies that more lenient inspectors depart at a significantly faster rate than stricter inspectors, as well as from inspectors who are not misfit.<sup>13</sup> These results suggest that either the highly lenient inspectors create legal or regulatory risk for the facility, or that such inspectors are limited in their ability to profit from fraudulent passing when at strict facilities. This may be due to organizational norms, rules, or monitoring limiting their bribe-based income, which in turn leads them to select to firms with better ethical fit. Finally, we analyze the impact of the size of the firm on the probability that a misfit inspector leaves more quickly. Overall, while we find larger firms suffer consistently less attrition, we find no evidence that misfit is more or less salient in larger facilities. The interaction terms in columns (3), (6), and (9) are poorly identified.

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INSERT TABLE 2 ABOUT HERE  
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In Table 3 we test whether ethical diversity within the new facility affects attrition, as Hypotheses 2 and 3 predict. It is important to note that in our empirical setting, firms are all of small size. This means that subgroup formation, and thus the moderating effect in Hypothesis 3a, are unlikely. We therefore expect that, consistent with Hypothesis 3b, ethical diversity will not moderate the misfit/tenure

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<sup>13</sup> The results of the test are reported at the bottom of table 2

relationship. We use Sample 2 from our previous model for these tests.<sup>14</sup> We use the standard deviation of the inspector pass rates at the new facility as a measure of ethical diversity.<sup>15</sup> Facilities where inspectors are passing cars at similar rates will have a small standard deviation and would be considered homogeneous or cohesive. Likewise, firms where there is considerable heterogeneity among inspectors would have a high standard deviation and would be ethically diverse. This model reduces our observations by 134, as we cannot measure SD for firms with only one additional employee.<sup>16</sup> Similar to Table 2, we present models with absolute value of misfit (column 1) and dummy variables representing directional misfit (columns 2 and 3). In each model we find that the inclusion of diversity as a linear variable greatly decreases tenure. While these hazard ratios are consistent with Hypothesis 4, the evidence is weak. The addition of the diversity variables does not alter our core results from Table 2, but the standard errors increase for the absolute value of misfit. In column (3) we examine what happens when we interact our diverse dummy with our variables of interest: LENIENT and STRICT. We find that the interaction between directional misfit and diversity is not statistically significant, and there appears to be no identifiable effect of diversity in moderating how misfit drives attrition. This is consistent with Hypothesis 3b, given the small size of the organizations in our empirical setting and the consequent low probability of subgroup formation.

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INSERT TABLE 3 ABOUT HERE  
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While our results are generally consistent with our hypotheses, it is important to note that many of our parameters are either weakly identified or not statistically significant. This raises several important limitations about our data that make identification difficult in our setting. First, our firm sizes are small, with a median size of nine inspectors per facility, which limits variation in our diversity measures. Additionally, many of the measures of diversity are imprecisely measured, due to a limited number of

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<sup>14</sup> Computational limits make sample 3 infeasible for this model.

<sup>15</sup> We alternatively measured diversity based on the high/low spread between the most lenient and least lenient coworker. Results were similar.

<sup>16</sup> When the new facility has only one additional employee, there is no variance in employee behavior, and thus diversity becomes irrelevant.

inspections performed by certain inspectors. Empirical settings with firms that employ larger numbers of employees will provide greater variation, and therefore stronger tests of the role of diversity in moderating how misfit drives worker attrition.

## **DISCUSSION AND CONCLUSION**

In this paper we develop predictions on how ethical misfit and diversity influence employee attrition. We argue that when employee disposition conflicts with organizational norms, employees will be more likely to voluntarily leave or be terminated. We also argue that the effect of this misfit is asymmetric, where some organizations will suffer more from highly ethical employees and others from those who are highly corrupt. We hypothesize that ethical diversity further increases attrition through decreased job satisfaction, communication, and teamwork, but also note how such diversity might protect misfit employees by allowing subgroup formation in larger firms. Our empirical analysis of over 2,000 emissions inspectors largely supports our hypotheses, demonstrating the asymmetric effects of ethical misfit (Hypotheses 1 and 4) and the role of diversity in increasing reducing employment tenure (Hypothesis 2). Unfortunately, the small firm sizes in our market precludes us from identifying potential roles of subgroups or subcultures in moderating misfit's effect on attrition in large firms (Hypothesis 3a).

While our empirical results strongly support the role of both ethical misfit and ethical diversity in employee attrition, there are several major limitations to our analysis. First, we urge the reader to be cautious while interpreting our results. A causal interpretation of our results would be particularly aggressive, as we do not have a compelling instrument to address the issue of endogenous matching of employees and firms. Without such an instrument, the results in this paper should be viewed as correlations. Furthermore, we do not know if the employee was terminated or voluntarily left the facility. While our theory predicts similar effects of misfit on both types of attrition, we cannot parse out the separate effects in this market setting. We also acknowledge that the small firm size in our market limits our ability to truly study the potential moderating effect of diversity on the misfit/attrition relationship

proposed in Hypothesis 3a. Testing this theory must remain an exercise for later work. Finally we recognize that the measurement of fit between the employee and the facility is imperfect, as there are potential omitted variables that could alter our measure or more precisely estimate it. We are, however, less concerned about this possibility since the results were fairly consistent across the different samples. Since the results do not change significantly when important controls are included in the specification, this casts some doubt on the existence of a crucial omitted variable.

While this paper shows a striking relationship between the ethics of individuals and the organizations for which they work, many of the internal mechanisms of this relationship are not empirically identified here. Although theory from multiple disciplines can suggest several explanations for employee attrition, it is clear that future work is needed to separate the financial and non-financial organization-level incentives that drive unethical behavior. Similar work by Ashforth and Anand (2003) explains how individual and firm ethics are not immutable, and that individual behavior can be influenced by environment. Furthermore, the way in which the person-organization interactions develop is of considerable interest to us, whether from formal firm policies, manager pressure, or unobservable side payments.

We believe this paper contributes to the understanding of the interaction between the dispositional ethics of employees and the culture and norms of the organizations that hire them. More specifically, we demonstrate how there are elements of individual ethics that are immutable, and that incongruence between past behavioral trends and expectations of new employers cannot be eliminated through acculturation or conformity. This ethical misfit is persistent, and may ultimately lead to either voluntary attrition or termination. Perhaps most importantly, we add several new elements to the misfit-attrition relationship. First, we introduce the concept of directional misfit and measure it bi-directionally, noting that the regulatory environment, incentives, and culture of the firm can make one direction less disruptive than the other. While we cannot observe the mechanisms for attrition, employee dissatisfaction and lack of performance, two key drivers of attrition, are unlikely to be symmetrically influenced by misfit, nor is the risk that an ethically misfit employee will bring legal sanctions to the firm. Second, we

introduce how ethical diversity can both directly influence attrition and also moderate the misfit-attrition relationship. The influence of diversity in our results suggests that person-organization fit is not a sufficient construct, and while firm size limits our identification, we still believe that subgroup formation in larger diverse organizations may protect those employees misfit with organizational norms.

Additionally, we contribute to the literature on fit by using a new method for measuring ethical misfit. We employ pre-hire behavioral data, which we believe eliminates two of the major problems with self-reported ethics: bias and misrepresentation. This represents a significant methodological contribution, one that can be used in conjunction with existing methods. The strength of this methodology is in its ability to link misfit with attrition, a link not consistently established in the empirical literature in psychology (Kristof-Brown, Zimmerman, and Johnson 2005), psychology, or sociology (Fernandez, Castilla, and Moore 2000, Castilla 2005). While pre-hire behavioral data is often difficult to find, we still see significant potential for this methodology in multiple types of fit: ethics, productivity, and other types of performance. These applications will likely be strongest in markets where employee productivity or behavior is necessarily tracked by regulatory agencies or third parties. Examples might include tax accounting, education, safety inspections (restaurants, plants, cranes, building), real estate, home mortgages, or transportation. Researchers might also find sufficient data for these studies when studying person-group fit when employees move within firms, as such organizations may carefully track past employee performance, productivity, or behavioral problems. The potential for this methodology is also to apply it in work similar to Castilla's (2005), linking misfit to robust measures of post-hire or post-transfer productivity. This methodology has greater possibilities than we can demonstrate with our dataset, which is limited by firm size and lack of information on cause of termination. Behavioral data from larger organizations can also better identify diversity as a possible moderator for the fit-attrition relationship.

Furthermore, the context in which we study this problem is not a trivial one---vehicle emissions testing is widespread across the United States, and has serious implications for the economy, the environment, and public health. Fraud in emissions testing has been linked to customer loyalty (Hubbard,

2002) and customer wealth (Gino and Pierce 2009b), and can be extrapolated to elevated air pollution and infant mortality (Chay and Greenstone, 2003). We therefore believe that this paper not only contributes to our understanding of ethics and organizations, but also to the management of employees and the design of environmental policy.

These findings have considerable implications for both managers and policy-makers. When individuals join organizations, their personal ethics are not immutable but are clearly persistent. While managers may be able to influence the ethics of individual behavior to conform to organizational norms, the effect of this acculturation is limited. If ethical conformity is essential to the financial and legal health of the organization, managers must be vigilant in the hiring process to vet applicants for severe misfit between organizational norms and personal beliefs, particularly when the direction of this misfit brings severe costs. How can managers accomplish this? In many non-profit or heavily regulated industries, pre-hire behavioral data may be available from third-parties or agencies. In education, past classroom scores are often publicly available. In medicine, surgeon and physician medical choices and performance are also reported. Attorney behavior in transcripts of past cases may also be observed. The accident and violation records for drivers of taxis and other livery services are available to managers as well. Furthermore, pre-hire behavior not directly related to the new position may be informative and predictive of likely misfit. Past arrests, credit defaults, and community service may provide behavioral evidence of likely ethical misfit. We would not argue that measuring fit based on pre-hire behavior is always feasible, but rather that it is a complement to traditional methods using interviews, references, self-reports, and more subjective evaluations of fit.

Some of the most interesting strategy and policy implications of this paper stem from the asymmetric nature of ethical misfit. Firms in some industries may suffer financially from hiring employees that are too ethical. Our results show the effect on attrition to be greater when employees are less ethical, likely due to the threat of legal sanctions from inspectors who are extremely fraudulent. But this directional effect will not always be true across firms and industries. Where unethical and illegal behavior is sufficiently profitable and legal sanctions sufficiently weak, highly ethical employees may

become liabilities for the firm. We would obviously not propose hiring fraudulent employees as a recommended course of action, but we suggest that firms should care intimately about the unethical actions of their competitors. If unethical or illegal behavior lends a competitive advantage to a rival, then monitoring these dimensions in the marketplace becomes an important strategic action, as firms can then report such behavior to authorities (if illegal) or publicize this to customers. We also would suggest that regulators and authorities must focus vigilantly on those industries where unethical behavior pays. Penalties and enforcement activities, when feasible, must be brought to levels to change the profit calculus of unethical behavior. Our evidence suggests that while hiring highly unethical inspectors may be costly, hiring inspectors that are too strict in enforcement may also hurt the firm. Given our knowledge about levels of cheating in this market, we can only believe that the optimal employee is not one who strictly follows the law.

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Table 1: Summary Statistics Across Three Samples

	Sample 1 Mean (SD)	Sample 2 Mean (SD)	Sample 3 Mean (SD)
Inspector Tenure at New Facility	386.23 (355.06)	389.56 (363.58)	408.32 (370.57)
Number of Inspections done by Inspector from 2001-2004	500.89 (553.53)	511.69 (570.13)	582.97 (676.30)
Number of Inspections Performed at the New Facility from 2001-2004	2658.30 (1923.52)	2901.04 (2022.01)	2782.92 (2064.91)
Average Mismatch Between Inspector and New Facility	-.005 (.072)	-.006 (.053)	-.005 (.050)
Percentage Strict Inspector: 5% or Lower Pass Rate Relative to Facility	.124 (.330)	.093 (.291)	.082 (.274)
Percentage Lenient Inspector: 5% or Lower Pass Rate Relative to Facility	.147 (.354)	.132 (.339)	.117 (.321)
Percentage that Left the New Facility	.689 (.463)	.682 (.466)	.653 (.476)
Observations	2549	2304	2599

Table 2: Cox Proportional Hazard Model Estimates of the Impact of Misfit on Exit Probabilities

	Sample 1			Sample 2			Sample 3		
	(1) Time To Exit	(2) Time to Exit	(3) Time To Exit	(4) Time To Exit	(5) Time to Exit	(6) Time To Exit	(1) Time To Exit	(2) Time to Exit	(3) Time To Exit
Absolute Value of the Mismatch	2.31 (.92)**		2.31 (.95)***	1.31 (.59)		1.28 (.60)	3.45 (1.95)**		3.19 (1.87)**
Large Facility: Performed >3000 Inspections	.83 (.04)***	.83 (.04)***	.83 (.06)***	.81 (.04)***	.82 (.09)	.80 (.06)***	.86 (.04)***	.86 (.04)***	.83 (.056)***
Lenient Inspector: 5% or Higher Pass Rate Relative to Facility		1.32 (.09)***			1.27 (.09)***			1.38 (.10)***	
Strict Inspector: 5% or Lower Pass Rate Relative to Facility		.90 (.07)			1.04 (.09)			1.18 (.11)*	
Absolute Value Misfit * Large Facility			1.01 (.149)			1.24 (2.06)			2.90 (4.59)
Number of Observations	2547	2547	2547	2303	2303	2303	2598	2598	2598
Number of Failures	1755	1755	1755	1571	1571	1571	1695	1695	1695

Note: Robust standard errors computed in parenthesis. \* significant at 10% confidence level, \*\* significant at 5% confidence level, \*\*\* significant at 1% confidence level. All results account for right hand side censoring.

Table 3: Cox Proportional Hazard Model Estimates of the Impact of Diversity on Exit Probabilities

	(1) Time to Exit	(2) Time To Exit	(3) Time to Exit
Diversity of New Peer Stringency	5.01 (2.20)***	4.60 (2.04)***	4.59 (2.48)***
Large Facility: Performed >3000 Inspections	.81 (.04)***	.81 (.04)***	.81 (.04)***
Absolute Value of the Mismatch	3.84 (3.30)		
Lenient Inspector: 5% or Higher Pass Rate Relative to Facility		1.19 (.09)**	1.21 (.14)
Strict Inspector: 5% or Lower Pass Rate Relative to Facility		1.13 (.11)	1.11 (.14)
Lenient * Diverse			.88 (.95)
Strict * Diverse			1.45 (2.13)
Number of Observations	2169	2169	2169
Number of Failures	1493	1493	1493

Note: Sample #2 was used to calculate these results. Robust standard errors computed in parenthesis. \*significant at 10% confidence level, \*\*significant at 5% confidence level, \*\*\*significant at 1% confidence level. All results account for right hand side censoring.