

How is Drug Testing Implemented in this Company? The Answer is in the Eye of the Beholder⁴

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We collected surveys from employees in a large petroleum company in the United States. Results indicated that employees with (a) lower scores on belief in chance (a dimension of locus of control), (b) lower scores on authoritarianism, (c) more positive attitudes toward drug testing in general, and (d) knowledge of fewer individuals known fairly well who have failed a drug test were more likely to report that their organization's drug testing program includes positive characteristics. We discuss implications of these findings for theory and practice regarding the implementation of drug testing in organizations.

Keywords : *human resources management, drug testing, employee selection*

4. We thank Charles A. Pierce (University of Memphis) for helpful comments regarding the research reported herein. A previous version of this article was presented at the annual meetings of the American Psychological Association, Boston, Massachusetts, USA, August 1999. Correspondence regarding this article should be addressed to Herman Aguinis, Mehalechin Term Professor of Management, The Business School, University of Colorado at Denver and Health Sciences Center, Campus Box 165, P.O. Box 173364, Denver, CO 80217-3364, USA, Internet : <http://www.cudenver.edu/~haguinis>

Nous avons compilé les résultats d'une enquête faite auprès des employés d'une grande compagnie pétrolière aux Etats-Unis. Les résultats ont indiqué que les employés avec (a) les scores les plus faibles sur la croyance dans leur chance (une dimension du locus de contrôle), (b) les scores les plus faibles concernant l'autoritarisme, (c) des attitudes davantage positives vis-à-vis des tests de drogue en général, et (d) la présence de quelques individus bien identifiés qui ont échoué aux tests de dépistage sont plus enclins à dire que les tests de dépistage de drogue dans leur organisation comportent des éléments positifs. Nous discutons les conséquences de ces conclusions au niveau théorique et pratique en ce qui concerne l'application des tests de dépistage dans les organisations.

Mots-clés : *gestion des ressources humaines, tests de dépistage de drogue, sélection du personnel*

Recogimos cuestionarios de empleados en una compañía grande de petróleo en los Estados Unidos. Los resultados indicaron que empleados con (a) puntajes más bajos en la creencia en la suerte (una dimensión de locus del control), (b) puntajes más bajos en autoritarismo, (c) actitudes más positivas con respecto a las pruebas de detección de drogas en general, y (d) conocimiento de menos individuos conocidos bastante bien que nos han pasado una prueba de detección de drogas son más proclives a informar que el programa de detección de drogas en su organización tiene características positivas. Discutimos las implicaciones de estos hallazgos para la teoría y la práctica con respecto a la implementación de pruebas de detección de drogas en organizaciones.

Palabras claves : *administración de recursos humanos, pruebas de detección de drogas, selección de personal*

Introduction

A recent survey indicated that 77% of all substance abusers are employed either part- or full-time (SAMHSA, 2002). Given the high employment rate of those currently dependent on illegal substances, it

is not surprising that 67% of employers implement drug testing to prevent substance abuse problems in the United States (American Management Association, 2001). Thus, based on the high frequency of voluntary drug testing among companies and federally mandated testing for safety sensitive jobs such as truck drivers, airline pilots, and railway workers (Omnibus Transportation Employee Testing Act of 1991), it is evident that drug testing programs are a common feature of organizational life in the United States (Cascio & Aguinis, 2005, chapter 12).

In the United States employers have a right to maintain a drug-free work environment, which entitles them to prohibit employee use, possession, and distribution of illegal drugs or alcohol while at work as well as reporting to work under the influence. Drug testing can be used as a means to attain a drug-free work environment, but employers are usually less restricted in their rights to test job applicants as compared to current employees. In general, job applicants can be legally tested if applicants are aware that drug testing is a component of the selection process, they have been made a conditional job offer, all applicants for the same job are tested in the same manner, and the tests are conducted by a state certified laboratory (Repa, 2000). In order to uphold the legality of drug testing current employees, typically testing needs to be done for cause (e.g., employee was in an accident or witnessed using drugs at work), for employees who work in jobs that entail increased risk of injury to others or property if they perform under the influence (e.g., construction), or for retesting employees who already have tested positive once and are currently in or just completed a rehabilitation program (Repa, 2000). Employers can legally refuse to hire applicants or terminate current employees who test positive for illegal substances. However, in certain states in the United States applicants and/or employees must be given the chance to retest if they receive a positive test, but it is often at their expense. Those testing positive may also have legal recourse if there was not a legitimate reason for testing or specific testing procedures, as outlined by state law, were not followed.

The increased pervasiveness of drug testing is not surprising given that consequences of drug use are so detrimental to employees and employers alike. Drug use is associated with absenteeism (e.g., Normand, Lempert, & O'Brien, 1994), involuntary turnover and job instability (e.g., Normand, Salyards, & Mahoney, 1990), personal injuries and accidents (e.g., Mangione et al., 1999), disciplinary action or trouble with one's job (e.g., Zwerling, Ryan, & Orav, 1990), job dissatisfaction (e.g., Lehman & Simpson, 1992), vandalism at work

(e.g., Newcomb, 1988), and other counterproductive work behaviors such as antagonistic behaviors and time theft (e.g., Mastrangelo & Jolton, 2001). And, in addition, substance abusers file five times more workers' compensation claims and use 300% more medical benefits than non-abusers (Halloran, 2003).

Drug use can affect organizational productivity and profitability through the aforementioned negative consequences. Thus, it is important that the implementation of drug testing programs be successful. As described next, a key determinant of the success of drug testing programs is how employees perceive policies and procedures regarding testing. If employees perceive that a drug testing program has positive characteristics (e.g., everyone is tested as opposed to testing a random sample of employees), they react positively (e.g., the program is seen as fair). However, if employees perceive that testing has negative characteristics (e.g., employees are not given the opportunity to voice their concerns regarding testing), they react negatively (e.g., they feel resentment and might engage in sabotage). Therefore, factors that affect perceived characteristics of a drug testing program need to be identified. The purpose of this study is to test hypotheses regarding whether individual differences, general attitudes toward drug testing, and knowledge of others known fairly well to have failed a drug test are associated with employee perceptions of an organization's drug testing program.

1. – Consequences of perceptions of characteristics of a drug testing program

Drug testing programs are beneficial to organizations when they are perceived as including characteristics that elicit positive reactions. Konovsky and Cropanzano (1991) ascertained that when drug testing programs are perceived as including features leading to feelings of fairness, employees are more likely to be trusting of management, committed to the organization, satisfied with their jobs, better performers, and less likely to turnover. Also, employees may have more positive attitudes about their workplace and believe that their organization values them because it is attempting to create a safe work environment through drug testing (Cropanzano & Konovsky, 1993). Likewise, Mastrangelo and Popovich (2000) found that drug testing programs seen as respectful of individual privacy are predictive of employee job satisfaction, organizational commitment, positive

attitudes toward management, perceptions of warmth in personal interactions, and less turnover.

Alternatively, if drug testing is perceived to have negative characteristics, negative reactions can spillover and create negative attitudes and undesirable work behaviors directed at the organization. If a drug testing program is perceived as having negative characteristics, negative reactions may include resentment (Crant & Bateman, 1989), low organizational commitment and job satisfaction (Crant & Bateman, 1989; Masters, Ferris, & Ratcliff, 1988), legal action (Bennett, Blum, & Roman, 1994; Masters et al., 1988), turnover (Masters et al., 1988), sabotage (Crant & Bateman, 1989), poor citizenship (Bennett et al., 1994), and decreased morale and performance (Crown & Rosse, 1988). Given these harmful consequences, it is not surprising that potential disapproval and dissatisfaction among employees is a popular reason against organizational implementation of drug testing programs (Karren, 1989). If reactions resulting from negative perceptions of drug testing outweigh its intended benefits (i.e., decreased drug use and resulting benefits), drug testing becomes futile. Therefore, it is important to examine factors that determine whether employees will perceive a drug testing program as having positive or negative characteristics. Moreover, calls for research have included the recommendation that further research on drug testing use actual participants in drug testing programs as opposed to research participants presented with a hypothetical drug testing scenario (Harris & Trusty, 1997).

2. – Assumed homogeneity in perceptions of characteristics of a drug testing program

Numerous studies have investigated which job and testing characteristics are perceived as being positive (i.e., leading to positive testing reactions such as low turnover and fairness) and which characteristics are perceived as being negative (i.e., leading to negative testing reactions such as resentment and sabotage). Regarding job characteristics, drug testing leads to positive cognitive and behavioral reactions when it is used for jobs that are routine, demand awareness of the surrounding environment, involve a variety of psychomotor abilities, have high stress levels (Murphy, Thornton, & Prue, 1991), are potentially dangerous to the job incumbent, coworkers, or public, and are safety sensitive (Kravitz & Brock, 1997; Murphy et al., 1991; Murphy, Thornton, & Reynolds, 1990; Paronto et

al., 2002; Raciot & Williams, 1993; Stone & Vine, 1989; Tepper, 1994). Regarding testing characteristics, drug testing is likely to lead to positive reactions when advanced notice is given (Cropanzano & Konovsky, 1995; Stone & Kotch, 1989), positive results lead to rehabilitation instead of termination (Gomez-Mejia & Balkin, 1987; Kravitz & Brock, 1997; Murphy et al., 1990; Raciot & Williams, 1993; Stone & Kotch, 1989; Tepper, 1994; Truxillo, Normandy, & Bauer, 2001), testing is implemented on all employees or for cause instead of randomly (Gomez-Mejia & Balkin, 1987; Masters et al., 1988; Murphy et al., 1990; Stone & Bowden, 1989), tests have a low false positive rate (Kravitz & Brock, 1997), tests can distinguish between previous drug use and current impairment (Kravitz & Brock, 1997), positive results are kept confidential (Gomez-Mejia & Balkin, 1987; Sujak, Villanova, & Daly, 1995), justification for testing is given, employee input is allowed, and a grievance process is provided (Cropanzano & Konovsky, 1995).

Although previous research has identified that job and testing characteristics are important in determining reactions to drug testing, this body of literature assumes that there is homogeneity in how study participants perceive a drug testing program. That is, although it has been found that reactions to testing differ depending on various job and testing characteristics, it is assumed that the manner in which testing characteristics per se are perceived is similar for all employees. Thus, it is assumed that, given a company's policies and procedures regarding drug testing (e.g., mandatory drug testing), all or most employees perceive these policies and procedures similarly (e.g., all employees perceive the drug testing program as mandatory). This assumption may be due, at least in part, to the fact that the vast majority of research conducted regarding perceptions of drug testing has used methods including convenience samples of university students exposed to a written description of a hypothetical drug testing program. In this context, it is probably realistic to assume that all, or most, research participants reading these descriptions perceive the outlined policies and procedures similarly. Alternatively, the way actual employees perceive a drug testing program implemented by their actual employer may vary widely depending on various individual characteristics. If employees differ regarding how they perceive the characteristics of the drug testing program, they will also differ in how they react to drug testing. Thus, much like the job characteristics model posits that perceptions of job characteristics might differ from the actual job characteristics (Hackman & Oldham, 1975; 1976), and analogous to the social information processing model which posits that perceptions of job tasks might differ from

actual job tasks (Salancik & Pfeffer, 1978), perceptions of drug testing characteristics are not necessarily identical to the actual testing characteristics. Moreover, employee perceptions of testing characteristic might vary widely even if a company has a uniformly implemented drug testing program.

The purpose of our study is to investigate the following three hypothesized predictors of perceived characteristics of a drug testing program: (a) individual differences (i.e., locus of control and authoritarianism), (b) general attitudes toward drug testing, and (c) number of individuals known fairly well who failed a drug test. We chose these variables because there are strong theory-based predictions to link them with employee perceptions of drug testing programs, which are discussed next.

3. – Hypotheses

3.1 Individual Differences

Extensive research has been conducted regarding how various testing characteristics affect testing reactions, while little research has examined the role individual differences play in determining perceptions of, as well as reactions to, testing (for exceptions, see Garland, Giacobbe, & French, 1989; Kravitz & Brock, 1997; Mastrangelo, 1997). House, Shane, and Herold (1996) argued that the predictive validity of dispositions is too potent to ignore when examining organizational behavior. In addition, these authors concluded that research on individual differences furthers our understanding of organizational behavior and leads to practical suggestions for organizations. Thus, research examining the influence of individual differences on perceptions of drug testing programs will enable organizations to better design programs to fit the characteristics of different types of employees or to determine if certain types of individuals will be a good match for organizations who have specific drug testing policies and practices. Further, it has been suggested that perceptions of drug testing may be influenced by individual differences in conformity to external pressures (Crant & Bateman, 1989). We investigated two traits that fall into this category, locus of control and authoritarianism, to determine their ability to predict perceptions of characteristics of a drug testing program.

Locus of control. Locus of control refers to the perceived ability to significantly alter events. Originally, locus of control was conceptualized as a unidimensional construct consisting of the internal

and external locus of control extremes (Rotter, 1966). However, the validity of a unidimensional construct has been questioned as too simplistic due to heterogeneity found among individuals with an external orientation (e.g., Hersch & Scheibe, 1967). This led to a three-dimensional approach to locus of control including one internal (i.e., internal) and two external (i.e., chance and powerful others) dimensions (Levenson, 1972).

Individuals with an internal locus of control tend to perceive that they have control over their lives. That is, they believe their behaviors or traits are responsible for the outcomes they receive and they take responsibility for their actions (Rotter, 1966). A chance orientation refers to a belief that the world is random and that chance determines one's fate (Levenson, 1981). A powerful others orientation refers to the perception that others in positions of power have control over one's outcomes (Levenson, 1981). It should be noted that a lack of endorsement of chance or powerful others as perceived sources of control does not per se indicate an internal orientation. The powerful others and chance dimensions may be moderately correlated with each other (Levenson, 1973a), but they are rarely correlated with the internal dimension (e.g., $r = .04$ and $.03$, respectively, Levenson, 1973a). In addition, powerful others and chance orientations are related differentially to such constructs as political involvement, perceived parental behaviors, psychiatric diagnoses, and clinical improvement (Levenson, 1972; 1973a; 1973b; 1974). Thus, the three dimensions are usually assessed separately (Singh, 1983). In short, endorsement of any of the dimensions only implies an endorsement of a belief that a particular source (i.e., self, chance, or powerful others) controls one's outcomes, and does not necessarily imply a lack of endorsement of the other dimensions.

Individuals with greater internal orientation have confidence in their ability to influence the surrounding environment and are more capable of dealing with stressful situations. Thus, individuals with a greater internal locus of control may perceive drug testing as having more positive features because they believe they can influence and have control over the test's outcome. Individuals who have a greater chance orientation perceive the world as random while those with a greater powerful others orientation believe that the world is ordered, but that powerful others are in control. Thus, individuals with a powerful others orientation are more likely to perceive the ability to anticipate their outcomes because powerful others may be believed to act in a predictable manner (Levenson, 1981). Thus, drug testing may be perceived as having positive characteristics because the powerful others in charge of it (e.g., management) are believed to follow certain

rules and act in a predictable way. Alternatively, individuals with a chance orientation feel a lack of control and do not perceive any predictability in their lives. Because individuals with a chance orientation may not perceive they have control over testing outcomes, drug testing may induce anxiety and other negative reactions. This may lead them to perceptions of the drug testing program as having negative characteristics (e.g., management does not seek input from employees or employee representatives in designing the testing program). In sum, we offer the following hypothesis:

Hypothesis 1: A stronger belief in oneself and powerful others as well as a weaker belief in chance as a source of control will be related to perceptions of a drug testing program as having more positive characteristics.

Authoritarianism. Authoritarianism is characterized by the belief that people should rigidly adhere to conventional values, authorities espousing these values should be obeyed, and those who violate conventional values or disobey authority figures should be punished (Cherry & Byrne, 1977; Sanford, Adorno, Frenkel-Brunswik, & Levinson, 1950). Individuals high on authoritarianism are more likely to be submissive to and uncritical of authorities or institutions that impose standards of behavior (Cherry & Byrne, 1977). Moreover, authoritarians often support mechanisms that are devised to control others' behavior (Dustin & Davis, 1967). Therefore, those with high levels of authoritarianism should perceive the drug testing program as having more positive characteristics because they are endorsed by organizational institutions and they attempt to control drug use. Thus, we offer the following hypothesis:

Hypothesis 2: Higher scores on authoritarianism will be related to perceptions of a drug testing program as having more positive characteristics.

3.2 General Attitudes Toward Drug Testing

A consistent finding in the social cognition literature is that holding attitudes regarding a domain affects perceptions regarding this domain (Myers, 1993). Thus, positive general attitudes regarding drug testing in general should lead employees to perceive more positive, as opposed to negative, characteristics in their company's drug testing program. There is some evidence that addresses this contention tangentially. First, Crant and Bateman (1993) found that individuals

with favorable attitudes toward drug testing and perceptions of norms toward testing were more likely to have positive attitudes toward the company doing the testing, apply for a job, and accept a job offer. Second, Mastrangelo (1997) found that undergraduate students with positive attitudes toward testing were more likely to have favorable attitudes toward a company that randomly tested employees and negative attitudes toward a company that did not use drug testing.

Despite the fact that Crant and Bateman (1993) and Mastrangelo (1997) examined general attitudes toward drug testing, there is a need to further investigate general attitudes toward drug testing as a predictor of perceptions of characteristics of a drug testing program. First, these previous studies examined the effect of general attitudes toward drug testing on attitudes toward a company, and not whether general attitudes regarding drug testing affect an individual's perceptions of characteristics of their company's drug testing program. In other words, these studies examined the impact of general attitudes toward testing on reactions to testing without measuring whether different attitudes toward testing affects the way in which the drug testing program's characteristics are perceived. Second, these previous studies have investigated college students' perceptions of hypothetical drug testing programs. Although it can be argued that college students can be considered potential job applicants, they are likely to experience drug testing differently than actual employees being subjected to a drug test. Although the description of the drug testing program might be realistic, using a written description of the program, as opposed to being personally tested, is likely to lack experimental realism (Carlsmith, Ellsworth, & Aronson, 1976). In short, we offer the following hypothesis:

Hypothesis 3: More favorable general attitudes toward drug testing in general will be related to perceptions of a drug testing program as having more positive characteristics.

3.3 Knowledge of Others Who Have Failed a Drug Test

The number of individuals known fairly well who have failed a drug test might also influence perceptions of a drug testing program (Garland et al., 1989). Despite this contention, however, there is little empirical evidence to support the link. Tepper (1994) examined perceived fairness of drug testing and found that as the number of times one was subjected to testing increased, the more likely it was that testing was believed to be unfair. However, other studies found that reactions to testing were not related to whether one had been

tested in the past (Kravitz, Stinson, & Chavez, 1996; Murphy et al., 1990; Truxillo et al., 2001).

This study attempts to go beyond these inconclusive findings by investigating the following theory-based prediction. We propose that a drug testing program will be perceived as having negative characteristics when individuals have knowledge of others, to whom they are close, who have failed a drug test. If employees have witnessed others testing positive for drugs, they may not like drug testing because of the harm it has caused others (ranging from the relatively mild embarrassment to the more serious employment termination). Indeed, the reinforcement-affect model of attraction (Clore & Byrne, 1974) leads to the prediction that if employees know someone receiving negative outcomes from drug testing, they will experience a negative affective response that might spill over to their perceptions of a specific testing program. Thus, employees may dislike the drug testing program because of the negative affect evoked by the adverse experience of individuals, known fairly well, who have failed a drug test. In short, we offer the following hypothesis:

Hypothesis 4: Individuals who know fewer acquaintances who have failed a drug test will perceive a drug testing program as having more positive characteristics than individuals who know more acquaintances who have failed a drug test.

4. – Method

Surveys were distributed to employees during safety meetings in the transportation department of a large midwestern petroleum company in the United States. At the time the study was conducted, the organization was implementing random drug testing of all employees as mandated by the United States Department of Transportation. Surveys were returned in a postage-paid envelope addressed to the first author's university address to ensure participants' anonymity.

4.1 Participants

We received 103 surveys from the 360 that were distributed, yielding a response rate of nearly 30%, which is a typical return rate for survey research in the social sciences (Berdie, Anderson, & Niebuhr, 1986). Most of the respondents were male (91.1%) and white

(96.7%). The average tenure with the company was 11 years. Participants were truck drivers (36%), managers (21%), terminal mechanics (6%), clerks (4%), piping designers (3%), pipeline controllers (3%), and safety employees (2%). Twenty five percent of the respondents did not indicate their job title.

We provided the Human Resources Department with ethnicity, sex, and tenure information from our sample and they compared this information to that of the population of 360 employees. Information regarding these three variables was similar in the sample and population. Thus, in terms of demographics and tenure with the company, our sample is representative of its corresponding population. Moreover, demographic information for the transportation industry indicates that this sample is fairly typical for this industry in that women and minorities are underrepresented. For instance, Woodmansee (2002) reported that women and minorities accounted for 28% and 26% of the 2002 transportation workforce, respectively.

We considered the possibility that employees with extremely positive or negative perceptions of the organization's drug testing program were more inclined to participate in our study. To determine whether our sample included only extreme respondents, we examined the distribution of scores for perceptions of the drug testing program. A visual inspection of the histograms indicated that these scores were normally distributed. Moreover, formal tests of significance for skewness ($S = -.147$, $z = -.61$, $p > .05$) and kurtosis ($K = 1.140$, $z = 1.54$, $p > .05$) suggested that they were not different from zero. Thus, our sample does not seem to be a biased group of employees holding extreme perceptions of the drug testing program's characteristics.

4.2 Measures

For each of the measures, except number of individuals known to have failed a drug test in the past, respondents indicated the extent of their agreement with each item on a 7-point Likert scale (1 = *strongly disagree*, 4 = *neither agree nor disagree*, 7 = *strongly agree*). The items for the locus of control, authoritarianism, and perceptions of the drug testing program scales are included in the Appendix.

Locus of control. The Levenson Tridimensional Locus of Control Scale was used to assess locus of control (Levenson, 1972). The scale has three subscales with eight items in each. The first subscale, Internal, assesses the extent to which individuals perceive mastery over their personal life (e.g., "I can pretty much determine what will happen in my life"). The second subscale, Powerful Others, assesses expectancy for control by powerful others (e.g., "I feel like what

happens in my life is mostly determined by powerful people"). The third subscale, Chance, assesses individuals' belief in chance (e.g., "To a great extent my life is controlled by accidental happenings"). Higher scores on the subscales are interpreted as strong perceptions of that source (i.e., self, chance, or powerful others) controlling individual outcomes while low scores on any of the subscales indicate low or no perceptions of that source as a controlling factor in one's life.

As described in the Introduction, researchers have argued that it is necessary to assess the three dimensions of locus of control rather than treating it as a unidimensional construct (e.g., Ganellen & Blaney, 1984; Lachman, 1986). Further, research on Levenson's multidimensional measure has found that a three-factor model of the scale provides good fit (Presson, Clark, & Benassi, 1997), and the measure has been shown to be valid (e.g., Gabbard, Howard, & Tageson, 1986). The internal consistency reliability estimates (α) in this study were .67 for the Internal subscale, .68 for the Powerful Others subscale, and .78 for the Chance subscale.

Authoritarianism. The Balanced *F* Scale developed by Byrne (1974) was used to measure authoritarianism. This scale is a revised version of the California *F* Scale (Sanford et al., 1950), which was originally used to assess authoritarianism. Byrne's scale overcomes problems of the original scale by reversing the positively worded items to avoid confounding acquiescence with authoritarianism. The revised items are correlated with the original scale ($r = .84$) and a few items were eliminated that could not be logically reversed (Cherry & Byrne, 1977). High scores on this scale reflect a more authoritarian orientation. In the current study, the scale had an $\alpha = .62$.

General attitudes toward drug testing. The following two items were combined to measure attitudes toward drug testing in general: (a) Drug testing is useful and (b) I am offended by drug testing (reverse coded). As expected, the two items were correlated ($r = .43, p < .01$).

Knowledge of others who have failed a drug test. Knowledge of others who have failed a drug test was assessed through a one-item measure about the number of people known fairly well to have failed the company's drug test (i.e., "How many people who you know fairly well have failed the test?").

Perceptions of the drug testing program. A scale developed by Murphy and Thornton (1992) was used to measure employee perceptions of various policies and procedures associated with a company's drug testing program. Eleven items of the original 19-item measure were used in the present study. Each of these items was selected based on empirical evidence suggesting that the drug testing

characteristic measured by each item is associated with consequential employee cognitive and behavioral reactions to testing (e.g., organizational commitment, negative attitudes towards the company, seeking employment in another company, engaging in sabotage). A discussion of the evidence supporting the items selected to measure perceptions of the drug testing program follows.

Research has demonstrated that how employees perceive they are selected for drug testing can affect cognitive and behavioral reactions to testing. That is, when employees believe they are selected at random the program is believed to be unfair (Cropanzano & Konovsky, 1995; Stone & Kotch, 1989) and ineffective (Gomez-Mejia & Balkin, 1987). In addition, when employees perceive they are tested frequently, such as when they return from leaves or during routine physical exams, they hold more negative reactions regarding the testing program (Tepper & Braun, 1995). In sum, perceptions that testing is random and that employees are tested when they return from leaves or during routine physical examinations elicit negative employee reactions. Thus, this research provided the rationale for including items one, two, and three (see Appendix).

The perceived administrative procedures used in drug testing and the circumstances surrounding testing also affect employee reactions to testing. When employees believe they are given an opportunity to voice their opinions and concerns about the drug testing program, they are more likely to believe the program is fair (Cropanzano & Konovsky, 1995). Likewise, perceptions that there is a need for drug testing also lead to perceptions of drug testing fairness (Cropanzano & Konovsky, 1995). This may include employees' perceptions that they are provided with a description of the program as well as an explanation for its implementation. Finally, perceptions that drug testing are related to public or employee safety also leads to positive reactions to drug testing (Gomez-Mejia & Balkin, 1987). Consequently, because perceptions of administrative procedures for a drug testing program affect employee reactions to testing, we included items four, five, six, and seven.

The perceived consequences of drug testing also affect employee reactions to testing. When a program is perceived as having less punitive consequences, it is perceived as more fair (Tepper, 1994) and effective (Gomez-Mejia & Balkin, 1987), has a higher approval rate (Cropanzano & Konovsky, 1995), and it results in more positive attitudes (Kravitz & Brock, 1997; Murphy et al., 1990; Racioc & Williams, 1993; Stone & Kotch, 1989; Tepper & Braun, 1995) than if the program has more punitive consequences. Therefore, in the case of a positive test, programs perceived to result in rehabilitation as

opposed to demotion, transfer, or termination will result in more positive employee reactions. Thus, based on this evidence regarding perceived consequences of testing and subsequent employee reactions, we included items eight, nine, ten, and eleven.

5. – Results

Means, standard deviations, and correlations among all examined variables are presented in Table 1. Prior to testing the substantive hypotheses, an additional issue was examined because it might influence the interpretation of results. Previous research has shown that the type of job subjected to drug testing can influence reactions to testing, especially when jobs vary in their level of danger to others (e.g., Kravitz & Brock, 1997; Murphy et al., 1991). In this study some participants hold jobs that are likely to be perceived as low in danger (e.g., management, clerical), whereas others hold jobs likely to be perceived as high in potential danger (e.g., truck drivers). For the jobs believed to be dangerous, drug testing is more likely to be acceptable than in jobs that are not believed to be dangerous, which would confound the results of this study. Although in this study the criterion was perceived characteristics of the drug testing program, and not to reactions to testing, we conducted an independent-samples *t*-test to determine if perceptions of testing varied by job title. Only managers and truck drivers were included in the analysis due to the small numbers of employees in the other positions. The test was not statistically significant, $t(54) = 0.17$, $p = .86$. Thus, we proceeded with the tests of the substantive hypotheses.

Table 1
Means, Standard Deviations, and Correlations Among Variables

Variable*	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Internal	5.13	.80	(.67)						
2. Chance	3.66	.99	-.05	(.78)					
3. Powerful Others	3.77	.91	.04	.52***	(.68)				
4. Authoritarianism	4.46	.57	.23*	-.05	-.24*	(.62)			
5. General Attitudes	5.55	1.47	.14	-.23*	-.04	.17	(.56)		
6. Knowledge of Others Who Have Failed a Test	.45	.76	.01	-.01	.08	-.06	.06	
7. Perceptions of Testing	4.64	.85	.12	-.16	.07	-.10	.20*	-.35**	(.57)

* *N* ranged from 81 to 98. Internal consistency reliability estimates (α) are shown on the main diagonal.

* $p < .05$, ** $p < .01$, *** $p < .001$

5.1 Test of Hypotheses 1 and 2: Individual Differences

A multiple regression analysis was conducted to evaluate whether the three dimensions of locus of control predicted perceptions of characteristics of the drug testing program. As predicted (see Table 2), respondents who are more chance oriented were less likely to perceive the drug testing program as having positive characteristics ($\beta = -.27$, $p < .05$). However, the internal and powerful others dimensions were not related to perceptions of the testing program. In short, only one of the three dimensions of locus of control was related to perceptions of drug testing and, thus, Hypothesis 1 was only partially supported.

Table 2

Summary of Simultaneous Regression Analysis for Locus of Control Dimensions Predicting Perceptions of the Drug Testing Program ($N=90$)

Variable	<i>B</i>	<i>SE B</i>	β
Internal	.10	.11	.10
Chance	-.23	.10	-.27*
Powerful Others	.20	.11	.21

B = unstandardized regression coefficient; *SE B* = standard error of *B*;

β = standardized regression coefficient: $R^2 = .07, p = .076$.

* $p < .05$.

As is shown in Table 1, authoritarianism was not related to perceptions of characteristics of the drug testing program ($r = -.10, p > .05$). Thus, Hypothesis 2 was not supported.

5.2 Test of Hypothesis 3: General Attitudes Toward Drug Testing

As is shown in Table 1, general attitudes regarding drug testing were related to perceptions of characteristics of the drug testing program ($r = .20, p < .05$). Employees with positive attitudes toward drug testing in general were more likely to perceive that the company's drug testing program has positive characteristics. Thus, Hypothesis 3 was supported.

5.3 Test of Hypothesis 4: Knowledge of Others Who Have Failed a Drug Test

As is shown in Table 1, the number of people known fairly well who had failed the company's drug test was related to perceptions of characteristics of the drug testing program ($r = -.35, p < .01$). That is, the more people employees know who have failed the company's drug test, the more likely they were to perceive the drug testing program as having negative characteristics. Thus, Hypothesis 4 was supported.

5.4 Test of Hypotheses 1-4 Combined

A multiple regression analysis was conducted to determine how well the predictors tested in Hypotheses 1-4 combined to explain perceptions of characteristics of the company's drug testing program. Results, which we summarized in Table 3, indicate that the linear combination of these variables accounted for 33% of the variance in perceptions of the drug testing program. Chance orientation, authoritarianism, general attitudes, and knowledge of others who have failed a drug test contributed to the prediction of drug testing perceptions while the internal and powerful others dimensions of locus of control did not.⁵ That is, those low on chance orientation, low

5. As shown in Table 1, the bivariate relationship between authoritarianism and perceptions of drug testing was not statistically significant ($r = -.10, p > .05$). However, results from the overall regression analysis shown in Table 3 reveal that authoritarianism is a significant predictor of perceptions of drug testing ($\beta = -.24, p < .05$). This is explained by the fact that the internal and powerful others dimensions of locus of control are serving as suppressor variables (i.e., predictors that are correlated with other predictors and not with the criterion; Horst, 1941; Tenopyr, 1977). As shown in Table 1, these two dimensions of locus of control are correlated with the predictor authoritarianism and not correlated with the criterion perceptions of drug testing. Thus, when entered together in the same regression model, they suppress variance that is irrelevant to authoritarianism's prediction of perceptions of drug testing, thereby improving the predictive power of authoritarianism.

Table 3
 Summary of Simultaneous Regression Analysis for Variables Predicting
 Perceptions of the Drug Testing Program ($N=73$)

Variable	<i>B</i>	<i>SE B</i>	β
Internal	.13	.13	.11
Chance	-.28	.12	-.29*
Powerful Others	.23	.13	.22
Authoritarianism	-.41	.19	-.24*
General Attitudes	.14	.07	.22*
Knowledge of Others Who Have Failed	-.49	.12	-.42 ***

B = unstandardized regression coefficient; *SE B* = standard error of *B*; β = standardized regression coefficient $R^2 = .33, p = .000$.

* $p < .05$. *** $p < .001$.

on authoritarianism, with more positive attitudes toward drug testing in general, or who know fewer people fairly well to have failed the drug test perceived the company's drug testing program as having more positive characteristics.

6. – Discussion

Employee perceptions of characteristics of a company's drug testing program play a key role in testing success. Specifically, the way in which a drug testing program is perceived leads to employee cognitive, affective, and behavioral responses that are consequential for organizations. If employees perceive the policies and procedures as having positive characteristics, they are likely to benefit organizations through positive work attitudes and behaviors. However, if employees perceive the policies and procedures as

lacking specific positive features, and having negative characteristics, drug testing can harm organizations in at least two ways. First, employees may have negative attitudes toward their employers. Some of these negative attitudes may include low morale, poor job satisfaction, and little organizational commitment. Second, employees may engage in disruptive behaviors such as turnover and sabotage.

The crucial role employee acceptance has in the success of drug testing programs makes it essential to identify the variables that influence this acceptance. Specifically, factors need to be explored that have the ability to increase perceptions of testing characteristics seen as positive and decrease perceptions of characteristics seen as negative. Although much research has been conducted to analyze the characteristics of the job and the testing program that affect reactions to testing, much of this research has assumed that the features of the drug testing program are perceived similarly by all employees. This study examined variables hypothesized to serve as predictors of how employees perceive the characteristics of a drug testing program implemented in their company.

Hypotheses 1 and 2 examined individual differences as predictors of perceptions of characteristics of drug testing, namely locus of control and authoritarianism. Individuals with higher internal and powerful others locus of control orientations and authoritarian beliefs, and those with lower chance orientations were predicted to perceive drug testing as having more positive characteristics. These hypothesized relationships were only partially supported. For locus of control, only one dimension was a predictor of perceptions of characteristics of the drug testing program. That is, in partial support of Hypothesis 1, employees who believe their outcomes are determined by chance perceived the drug testing program as having more negative features than those who do not believe their outcomes are dictated by chance. Hypothesis 2 posited that individuals high on authoritarianism would perceive a drug testing program as having more positive characteristics than those low on authoritarianism. Contrary to Hypothesis 2, the bivariate relationship between authoritarianism and perceptions of drug testing was not statistically significant. In addition, the overall regression analysis reported in Table 3 showed that respondents low on authoritarianism perceived the drug testing program as having more positive features than those high on authoritarianism, possibly due to a suppressor effect (see Footnote 2). Future research is needed to clarify the relationship between authoritarianism and perceptions of drug testing.

Hypothesis 3 examined attitudes toward drug testing in general as a predictor of perceptions of characteristics of drug testing. It was

predicted that employees who believe that the concept of drug testing is worthy would be more likely to perceive positive program characteristics. Results supported this hypothesis. That is, employees who had favorable perceptions of drug testing in general were more likely to report that the company's drug testing program has positive characteristics. However, we acknowledge that data were collected within the context of passive observation design, thus the causal ordering of the relationship between general attitudes toward drug testing and perceptions of a specific drug testing program cannot be determined. It is possible that, because participants in this study have been with the organization for a substantial amount of time (i.e., 11 years on average), their perceptions of the company's drug testing program influenced their attitudes toward drug testing in general. Although we acknowledge this possibility, theory and research has supported the assertion that general attitudes lead to specific perceptions and not the opposite (e.g., Myers, 1993).

Hypothesis 4 tested whether the number of individuals known fairly well who have failed the company's drug test was related to drug testing perceptions. Results provided support for this hypothesis. The greater the number of people employees know fairly well who have failed a drug test, the less likely they were to perceive the testing program as having positive features.

Finally, combining the individual difference variables, general drug testing attitudes measure, and knowledge of others who have failed a drug test item accounted for 33% of the variance in perceptions of the drug testing program. Employees with low chance and low authoritarianism orientations, positive attitudes toward drug testing in general, and knowledge of few people who have failed the drug test reported that the company's drug testing program had more positive characteristics than those with high chance and authoritarianism orientations, negative attitudes toward drug testing in general, and knowledge of more people who have failed the test. This combined result is quite meaningful considering that, although there is ample construct validity evidence for the locus of control (e.g., Gabbard et al., 1986), authoritarianism (e.g., Cherry & Byrne, 1977), and perceptions of drug testing (Murphy & Thornton, 1992) scales, internal consistency estimates were not optimal. This might be an indication that the findings are quite strong given that slight reductions in measurement error can lead to large improvements in effect size (Nunnally & Bernstein, 1994).

6.1 Implications for Theory and Future Research

This study contributes to the literature by suggesting that employee perceptions of characteristics of a drug testing program are not necessarily similar to the actual program characteristics. Moreover, this study showed that locus of control, authoritarianism, general attitudes toward drug testing, and number of people known to have failed the test in the past accounted for 33% of the variance in employee perceptions of drug testing. In terms of magnitude, this is larger (i.e., $R = .57$) than what is typically considered a large effect in social science research (i.e., $R = .50$, Cohen, 1988). Perhaps more importantly, the effect is practically significant considering that all employees in the organization had been trained and exposed to exactly the same information regarding the drug testing policies and procedures. Thus, one implication of the present results is that future models regarding how various testing characteristics affect testing reactions cannot assume that all employees perceive drug testing characteristics similarly. Moreover, perceptions of drug testing characteristics should be examined as mediators of the effect of actual testing characteristics on reactions to testing (Aguinis, 2004, chapter 1). Such models including perceptions of drug testing as mediating variables might enhance the predictive power of drug testing characteristics on drug testing reactions. This might be particularly true for research conducted in naturally occurring settings, where actual employees are directly exposed to a drug testing program, rather than students being exposed to a written description of a hypothetical drug testing program.

Second, this was the first study to investigate predictors of variability in how drug testing characteristics are perceived. Thus, we only tested four hypotheses regarding predictors of drug testing perceptions. We hope that future research will examine additional variables, in addition to those investigated herein, that may predict variation in how employees perceive drug testing characteristics.

Third, this study sampled employees who are exposed to drug testing at work instead of college students who read scenarios about drug testing, which accounts for the vast majority of the research conducted regarding drug testing in organizations. Results from studies including samples of actual employees, as opposed to samples of college students, provide more valid information regarding the relevant psychological mechanisms (e.g., difference between actual program characteristics and perceived program characteristics). For student participants, albeit considered potential employees, the reality of drug testing is less salient, and they typically participate in a study

in exchange for course credit. For employees, drug testing is a part of their organizational life and is very salient because it can lead to important consequences such as resentment, turnover, disciplinary action, or even termination. Therefore, we suggest that future research regarding drug testing perceptions use samples of actual employees exposed to testing because the consequences of such programs are more serious and, therefore, research using employees as opposed to college students might yield results that are qualitatively different.

6.2 Implications for Organizations and Management

Results of this study have several implications for organizations and management. First, those implementing a drug testing policy must realize that not everyone will perceive the program similarly. For example, individuals have unique perceptions regarding the same drug testing program depending on individual differences. That is, those with a chance orientation are more likely to believe their organization's drug testing program includes characteristics that are associated with negative attitudinal and behavioral reactions. A thorough explanation of the reasoning behind the program and of the program itself as well as participative involvement may help to overcome drug testing perceptions explained in part by individual differences.

Second, it would be beneficial for organizations to concentrate on modifying employee attitudes toward drug testing in general. This is particularly relevant because organizations are likely to be more successful at changing attitudes regarding drug testing in general than individual difference traits (e.g., locus of control). Organizations can benefit from enhancing employees' perceptions that drug testing in general is useful by distributing information on its benefits, reliability, and accuracy. By educating employees about the positive aspects of drug testing, employers may be able to enhance favorable attitudes toward testing in general, which will carryover to perceptions of a specific organization's drug testing program.

Third, organizations may want to reconsider how they handle employees who test positive for drug use. This study provided evidence that employees perceive the testing program as having fewer positive features when they know people fairly well who have failed a drug test in the past. By using rehabilitation as the consequence of testing positive instead of demotion or termination, organizations may be able to alleviate the negative perceptions of testing that spillover from knowing individuals fairly well who have tested positively and must face the consequences. This practice is supported by empirical

evidence showing that less adverse consequences of testing positive are predictive of favorable reactions to drug testing (e.g., Gomez-Mejia & Balkin, 1987; Kravitz & Brock, 1997; Tepper, 1994).

In closing, employee perceptions of drug testing programs are important determinants of their success. Employees react very differently to testing depending on whether drug testing policies and procedures are perceived as having certain characteristics. As has been demonstrated in research areas such as job (e.g., Hackman & Oldham, 1975; 1976) and task characteristics (e.g., Salancik & Pfeffer, 1978), employees differ widely in how they perceive various characteristics of their work environment. Thus, perceptions of a drug testing program's characteristics should not be assumed to be homogeneous across employees. Organizations need to identify antecedents of drug testing perceptions because these perceptions result in consequential employee cognitive and behavioral reactions. The negative consequences of drug use in organizations are too severe for employers to casually implement programs without considering how employees will perceive them. If employees perceive negative, as opposed to positive, aspects of drug testing, not only may organizations fail to reduce drug use, but also they may increase the likelihood of employees reacting with adverse attitudes and behaviors.

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APPENDIX

Locus of Control Scale (Levenson, 1972)

Internal

1. Whether or not I get to be leader depends mostly on my ability.
2. Whether or not I get into a car accident depends mostly on how good a driver I am.
3. When I make plans, I am almost certain to make them work.
4. How many friends I have depends on how nice a person I am.
5. I can pretty much determine what will happen in my life.
6. I am usually able to protect my personal interest.
7. When I get what I want, it's usually because I worked hard for it.
8. My life is determined by my own actions.

Chance

9. To a great extent my life is controlled by accidental happenings.
10. Often there is no chance of protecting my personal interest from bad luck happenings.
11. When I get what I want it's usually because I am lucky.
12. I have often found that what is going to happen will happen.
13. Whether or not I get into a car accident is mostly a matter of luck.
14. It's not always wise for me to plan too far ahead because many things turn out to be a matter of good or bad fortune.
15. Whether or not I get to be a leader depends on whether I'm lucky enough to be in the right place at the right time.
16. It's chiefly a matter of fate whether or not I have a few friends or many friends.

Powerful Others

17. I feel like what happens in my life is mostly determined by powerful people.
18. Although I might have good ability, I will not be given leadership responsibility without appealing to those in positions of power.
19. My life is chiefly controlled by powerful others.
20. People like myself have very little chance of protecting our personal interests when they conflict with those of strong pressure groups.
21. Getting what I want requires pleasing those people above me.
22. If important people were to decide they didn't like me, I probably wouldn't make many friends.

23. Whether or not I get into a car accident depends mostly on the other driver.
24. In order to have my plans work, I make sure that they fit in with the desires of people who have power over me.

Authoritarianism Scale (Byrne, 1974)

1. There is hardly anything lower than a person who does not feel a great love, gratitude, and respect for his parents.
2. An insult to our honor should always be punished.
3. Books and movies ought not to deal so much with the unpleasant and seamy side of life; they ought to concentrate on themes that are entertaining or uplifting.
4. What the youth needs most is strict discipline, rugged determination and the will to fight for family and country.
5. No sane, normal, decent person could ever think of hurting a close friend or relative.
6. Young people sometimes get rebellious ideas, but as they grow up they ought to get over them and settle down.
7. The findings of science may some day show that many of our most cherished beliefs are wrong (R).
8. It is highly unlikely that astrology will ever be able to explain anything (R).
9. People ought to pay more attention to new ideas, even if they seem to go against the American way of life (R).
10. If people would talk less and work more, everybody would be better off.
11. A person who has bad manners, habits and breeding can hardly expect to get along with decent people.
12. Insults to our honor are not always important enough to bother about (R).
13. It's all right for people to raise questions about even the more sacred matters (R).
14. Obedience and respect for authority are the most important virtues children should learn.
15. There is no reason to punish any crime with the death penalty (R).
16. Anyone who would interpret the Bible literally, just doesn't know much about geology, biology, or history (R).
17. In this scientific age the need for religious belief is more important than ever.
18. When they are little, kids sometimes think about doing harm to one or both of their parents (R).

19. It is possible that creatures on other planets have found a better society than ours (R).
20. The prisoners in our corrective institutions, regardless of the nature of their crimes, should be humanely treated (R).
21. The sooner people realize that we must get rid of all the traitors in the government the better off we'll be.
22. Some of the greatest atrocities in men's history have been committed in the name of religion and morality (R).

Perceptions of the Drug Testing Program (Items from Murphy & Thornton, 1992)

1. Employees are tested when they return from extended absences or leaves (R).
2. Employees are tested as part of a routine physical (R).
3. A random sample of employees is tested (R).
4. Management designs or implements a program without consulting or seeking input from employee representatives (R).
5. Management designs or implements a testing program without communicating to employees reasons for doing so (R).
6. A written description of testing policies and practices is distributed to all employees.
7. The goal of the testing program is to maintain the health and safety of the work-force.
8. If he or she fails the test, the employee is put on administrative leave while undergoing rehabilitation.
9. If he or she fails the test, the employee is terminated (R).
10. If an applicant fails the test, future employment status is made conditional on rehabilitation.
11. If he or she fails the test, the employee is demoted or transferred (R).