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Regulating employees' health behaviors: The effects of personal health-related orientations on legitimacy perceptions of organizational programs and policies

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Abstract

The current study investigated individuals' responses and evaluations of worksite health programs and policies. Upper level undergraduates rated the legitimacy of policies and programs exerting low, moderate, or high levels of control over employees' health behaviors. The findings showed that individuals' nutrition orientations accelerated the decrease in legitimacy ratings that accompanied increased control over employee fitness and health risk appraisal. On the other hand, individuals' anti-smoking orientations slowed the decrease in legitimacy ratings that accompanied increased control over employee smoking behavior. Implications of the findings for job counselors and human resource personnel are discussed.

Keywords: worksite, health, smoking, fitness, health risk appraisal

1 INTRODUCTION

The growth in corporate health programs and policies constitutes one of the most pronounced trends in business over the past 20 years, and one that is likely to continue, and even accelerate, in the future (Goetzel & Ozminkowski, 2000; Harris, 1994). Programs range from health awareness - and supportive environment - programs to programs aiming at behavioral change, and target areas such as smoking cessation, fitness coaching, health risk awareness, hypertension control, stress management, and even spiritual employee health (e.g., Kirby, 2006; O'Donnell, 1991). Motivations for organizations to implement such programs can include demonstrating concern for employees, improving management-labor relations, and raising employee morale, although it may be impossible to disentangle the intermediate goal of healthier employees from the ultimate goal of cost savings (Mayer, 1991). In cases where programs are being offered on a truly voluntary basis and, more importantly, perceptions of organizational support outweigh the restrictions that are being imposed (Dalsey & Park, 2009), individuals may well enjoy personal benefits provided by these programs rather than feel victimized by them.

Types of health programs and policies at worksite can vary in the extent to which they regulate individual employees' health-related behaviors. When designing and implementing health programs and policies, companies may need to consider factors that may affect individuals' responses to the health programs and policies. It is important to see whether individuals who will be affected by the health programs and policies will regard the programs and policies as the legitimate and appropriate level of organizational control. Considering that undergraduates are about to enter the workforce and apply for jobs in near future, how they will evaluate various health programs and policies can be useful information for companies that consider recruiting college graduates and implementing various health programs and policies. Furthermore, undergraduates' orientations and behaviors regarding maintaining or improving their health, nutrition, and fitness can be a factor that affects how openly they welcome voluntary or mandatory participation in worksite health programs and policies. The current paper focuses on health programs and policies in smoking cessation, fitness, and health risk appraisal and investigates individual health orientation factors that are likely to affect legitimacy perceptions of low, moderate, and high control levels of health programs and policies.

2 LITERATURE REVIEW

2.1 Health promotion in the workplace

The worksite can be an efficient place for providing public health education such as encouraging smokers to engage in cessation techniques (Osinubi, Barbeau, Williams, & Sorensen, 2005). First, there is the advantage of broad reach. With half of the adult population working outside of the home, worksite programs have the potential to reach even those who traditionally lack good connections to healthcare and health education networks (Osinubi et al., 2005). Second, there is the advantage of exposure. The sheer amount of time individuals spend at work makes the worksite a valuable platform for health campaigns. A third and equally important advantage lies in the opportunities for social support, both in the form of colleagues working toward similar health goals together . Employer-based initiatives may provide the little "nudge" that may be needed to move from good intentions to actual healthy behaviors in order to maintain long-term changes (Mayer, 1991).

2.2 Effects on employees

As human resources strategists note, improving the company's bottom line and demonstrating true care for employees are not mutually exclusive goals (Pfeffer, 1998). In the case of corporate health interventions, a concern for employees' well-being may well be an additional motive for program implementation and employees may well appreciate "being treated like family" (Hunnicutt, 2001). By the same token, some policies can backfire and cause reactance, reduce organizational attractiveness, and worsen the individuals' and company's well-being at the same time. This is especially true if programs get more involved with health screenings and are perceived as intruding into employees' privacy (Greer & Labig, 1987; Konovski & Cropanzano, 1991; McGregor, 2007; Truxillo, Baier, & Paronto, 2002). The question is: at what point does a caring, big-brother-like company start turning into an Orwellian version of a big brother "watching" and penalizing employees for unhealthy behaviors previously thought private?

Regarding the implementation of employee health-related interventions, more attention needs to be paid to the perceptions of those on the receiving end of various policies formulated today (Dalsey & Park, 2009; Konovski & Cropanzano, 1991; O'Donnell, 2000). At what point are companies' health

regimens perceived as "going too far," and what types of interventions are being perceived as legitimate and/or desirable, if any? Critical voices have pointed to the paternalistic nature of these new forms of corporate control over one's life (Kirby, 2006; Zoller, 2003), and anecdotal evidence for employee concern over a "slippery slope" exists (Jones, 2007; Park, Dalsey, Yun, Guan, & Cherry, 2008). Individuals reported the feeling of having their privacy being whittled away by attempts to change employee behavior after five o'clock, while employers argue that it is up to the individual whether or not they want to work under certain mandates (Jones, 2007). Although certain health issues, such as obesity, are somewhat less amenable to employer control for legal reasons, halting behaviors such as smoking seems to be more widely accepted; there is a move from incentive based, honor-system approaches toward penalty-based approaches to noncompliance and more intrusive testing (McGregor, 2007). For example, one employer started charging employees a biweekly penalty of $30 unless they meet weight, cholesterol and blood-pressure guidelines set forth by the company (Rose, 2008). For some, such intrusive health policies are overstepping sacred boundaries, and some firms endorsing aggressive anti-smoking laws have attracted negative attention with the public both within and outside the organization (Jones, 2007), while others are open to and even supportive of organizational control in these areas; some may even find it desirable to work at a place where healthy behavior is forced upon individuals.

2.3 Legitimacy perceptions of health programs and policies

Legitimacy pertains to the belief that social arrangements, institutions, authorities and their decisions and rules are appropriate, proper and just (Tyler, 2006). Individuals' perception of legitimacy regarding organizational policies and programs can be important for organizations to positively influence their members to participate in the programs and adhere to the policies. Assuming that organizations do not prefer to simply impose a certain type of health behaviors to their members and garner undesirable consequences, organizations may want to know how individuals will think about legitimacy and acceptability level of organizational control when enforcing health-related regulations. For example, when organizations change their smoking regulations from smoking allowed only in designated break rooms to administering a mandatory pre-employment nicotine test, some individuals may consider the new change to be much less legitimate than others may.

2.4 Types of interventions investigated in the current study

This paper focuses on three of the most common interventions: Smoke-free programs, employee fitness programs, and health-risk appraisals (HRAs). All three approaches are well established in organizational practice (Harris, 1994), and remain at the core of current health initiatives. For example, the "Wellness Management" program advocated by corporate healthcare provider Meritain is based on three key initiatives labeled "Nicotine Free," "Physically Fit," and "Managed Metrics," (Meritain Health, 2007). These programs indicate cost-saving potentials and are likely to continue to play a key role in corporate health promotion.

Smoke-free programs: Whether in the form of incentives for quitting smoking or disincentives for being a smoker, programs designed to eliminate or regulate smoking at the worksite do not only have a long standing in business practice, but continue to gain in prevalence (Rose, 2008; Sofian, McAfee, Doctor, & Carson, 1994). After all, cigarette smoking has been identified as the leading preventable cause of illness and premature death in the U.S., increasing the risk for heart disease, stroke, emphysema, and many cancers (CDC, 2005). It is associated with direct costs to businesses reaching $75 billion a year in direct medical costs, $92 billion in lost productivity and $10 billion in exposure to second-hand smoke (CDC, 2005; Meritain, 2008; Osinubi et al., 2005).

Fitness programs: After cigarette smoking, obesity is the second-leading cause of preventable death in the U.S. A study commissioned by the AOA found that the direct healthcare costs related to obesity reached over $102 billion in 1999 (American Obesity Association, 2002). Efforts to reduce obesity and improve fitness are well-reflected in exercise and fitness programs pervasive in U.S. worksites (Collingwood, 1994).

Health-risk appraisals (HRAs): Even if no immediate medical attention is needed, periodic health reports have been found to effectively increase employees' awareness of health issues, a prerequisite for long-term behavior modification (Dunton, 1991). While awareness and early detection are the basis for prevention and effective treatment of most illnesses, health-risk-appraisals are one of the most controversial elements of corporate health policies, especially if they go beyond self-report data, as in

blood chemistry analyses (Konovski & Cropanzano, 1991; McGregor, 2007; Wallston & Armstrong, 1994).

2.5 Levels of control exerted via health interventions

Canby (2007) describes the range of incentives and disincentives that may be used to encourage compliance with corporate health programs. Rewards may range from public recognition, gift certificates and gym memberships to days off, cash payments and reduced medical premiums. Penalties for noncompliance, may include increased health insurance premiums, paycheck reductions, and even termination of the employee. Some employers have elaborate calculation procedures for insurance co-pays and deductibles in place, based on employees' BMI, blood pressure, and even cholesterol levels (McGregor, 2007).

The current study grouped various health initiatives into three levels of "control" based on their intrusiveness into employees' life. Interventions labeled as *low* in control comprised those programs that are implemented on a voluntary basis, are designed to raise awareness and encourage practices that do not infringe on behaviors off the job. Examples are the limitation of smoking to designated areas, encouragement to join the corporate fitness club membership program, and voluntary sign-ups for health screenings. Interventions labeled as *moderate* in control are those that regulate employees' behaviors on and beyond the job, such as hiring only nonsmokers (while encouraging smoking cessation and offering support to current employees who smoke), ordering mandatory fitness regimens, or creating annual health files for employees. Lastly, interventions labeled as *high* in control refer to drastic measures such as terminating employment of smokers for their failure to quit smoking, or denying medical benefits to high-risk individuals who fail to improve their personal fitness or reduce health risk indicators.

2.6 Research question

Among a host of factors that can affect individuals' legitimacy ratings of various types of health programs and policies, the current study focuses on individuals' orientations related to health and fitness. Individuals differ in their health and fitness related attitudes, habits, and perceived health-related self-efficacy. These individual differences are likely to explain some variation in perceived legitimacy and desirability of corporate health policies and programs. A match between a job applicant's personal values and a company's values has been shown to positively affect the job applicant's evaluation of the organization (Bretz, Ash, & Dreher, 1989; Chatman, 1991; Dalsey & Park, 2009). Similarly, a match between individuals' health-related orientations and specific organizational health policies that relate to these orientations is likely to increase perceptions of legitimacy of such policies. Specifically, compared to smokers and individuals with favorable attitudes about smoking, non-smokers and individuals with anti-smoking attitudes may be more likely to welcome severe anti-smoking policies. Dalsey and Park (2009) showed that, compared to smokers, non-smokers indicated higher attraction for an organization that encouraged employees to quit smoking. Similarly, individuals with greater concern of and care for their fitness, nutrition, and wellness can be more likely to have stronger legitimacy perceptions about higher levels of employee-fitness and health risk appraisal interventions. The research question examined in this study is: How do personal fitness, nutrition, anti-smoking, and wellness orientations affect the perceptions of legitimacy of employer control of various health behaviors?

3 METHOD

3.1 Participants

Participants (n = 115, age M = 21.90, SD = 2.79, 65.3 % women) were recruited from upper division undergraduate classes at a large Midwestern university in the U.S. The sample consisted of 84.3% Whites/Caucasians, 7.0% African Americans, 3.5% Asians, and 5.2% who indicated other ethnicities. The majority (76.7%) was in their senior year, and 67.0 % indicated their plans to enter the workforce within the next year. This student sample thus possessed two desirable properties for the purpose of the current investigation: While these individuals are seriously thinking about potential workplaces and their characteristics, they are still less concerned with an immediate need for employment. It is likely that their personal orientations and opinions towards corporate health policies are relatively free from practical necessity considerations that may enter the picture for long-term unemployed job seekers, and from influences through previous corporate health promotions.

Based on considerations outlined above, but also as an induction for respondents to seriously think about their working future, we assessed what industries, job types, and geographical regions were sought. Answers reflected a high popularity for marketing-related jobs (26.0%), the public relations

industry (23.4%), health communication (11.7%), the media and entertainment industry (8.1% and 9.0%), and legal/financial/other services (7.4% each). Of the participants, 44% wished to stay in the Midwest for their work, while 37.2% felt drawn to the West coast (19.6.2%), the East coast (17.6%), or the South (8.8%).

3.2 Measures

All measurement items were constructed for this study, using a 7-point Likert style response format (1 = strongly disagree, 7 = strongly agree). Appendix shows all the measurement items. Table 1 shows the reliabilities, correlations, means, and standard deviations.

Table 1: Reliabilities, Correlations, Means, and Standard Deviations

	Personal health-related orientations				Legitimacy ratings of interventions								
	Fitness	*Nutrition*	*Anti-smoking*	*Wellness*	*Psc low*	*Psc mod*	*Psc high*	*Pfc low*	*Pfc mod*	*Pfc high*	*Phc low*	*Phc mod*	*Phc high*
Fitness	*(.87)*												
Nutrition	*.53***	*(.72)*											
Anti-smoking	*.13*	*.15*	*(.83)*										
Wellness	*.47***	*.52***	*.18*	*(.82)*									
Psclow	*.22**	*.14*	*.30***	*.18*	*(.81)*								
Pscmod	*.22**	*.14*	*.25***	*.16*	*.41***	*(.82)*							
Pschigh	*.13*	*.04*	*.30***	*.17*	*.32***	*.71***	*(.91)*						
Pfclow	*.27***	*.26***	*.24***	*.06*	*.42***	*.31***	*.38***	*(.88)*					
Pfcmod	*.19**	*.05*	*.23**	*.07*	*.18*	*.55***	*.69***	*.57***	*(.83)*				
Pfchigh	*.17*	*-.02*	*.11*	*.04*	*.19*	*.55***	*.72***	*.38***	*.78***	*(.91)*			
Phclow	*.19*	*.25*	*.20**	*.03*	*.32***	*.30***	*.26***	*.65***	*.50***	*.25***	*(.91)*		
Phcmod	*.17*	*.09*	*.10*	*.15*	*.30***	*.50***	*.60***	*.47***	*.72***	*.71***	*.47***	*(.92)*	
Phchigh	*.06*	*-.06*	*.12*	*10*	*.16*	*.45***	*.66***	*.31***	*.67***	*.79***	*.26***	*.80***	*(.95)*
M	*5.00*	*4.84*	*6.15*	*5.59*	*6.19*	*4.14*	*3.34*	*5.40*	*3.85*	*2.79*	*5.53*	*3.46*	*2.58*
SD	*1.28*	*1.19*	*1.16*	*0.86*	*0.88*	*2.28*	*1.73*	*1.33*	*1.40*	*1.32*	*1.29*	*1.41*	*1.43*

**p < .05, **p < .01. Reliabilities are reported on the diagonal.*

1 = strongly disagree; 7 = strongly agree

Fitness: personal orientation placed on fitness, assessed with 3 items

Nutrition: personal orientation placed on healthy nutrition, assessed with 3 items

Anti-Smoking: anti-smoking-related orientation, assessed with 5 items

Wellness: wellness awareness orientation, assessed with 7 items

Psclow: legitimacy rating of low employer control of smoking behaviors, assessed with 7 items

Pscmod: legitimacy rating of moderate employer control of smoking behaviors, assessed with 5 items

Pschigh: legitimacy rating of high employer control of smoking behaviors, assessed with 5 items

Pfclow: legitimacy rating of low employer control of employee fitness, assessed with 6 items

Pfcmod: legitimacy rating of moderate employer control of employee fitness, assessed with 5 items

Pfchigh: legitimacy rating of high employer control of employee fitness, assessed with 8 items

Phclow: legitimacy rating of low employer control of health risk appraisals, assessed with 5 items

Phcmod: legitimacy rating of moderate employer control of health risk appraisals, assessed with 9 items

Phchigh: legitimacy rating of high employer control of health risk appraisals, assessed with 7 items

3.3 Personal health-related orientations

For this study, four categories of personal health related orientations were expected to potentially influence perceptions of policies that related to them. These orientations were assessed through topic-related attitudes, behaviors, and values. *Fitness orientation* describes personal value placed on fitness, getting or staying in shape, and exercise habits and was assessed using three items ($\alpha = .87$) such as “I exercise on a regular basis.” *Nutrition orientation* was measured with three items ($\alpha = .72$) such as "I

maintain a well-balanced diet" and assessed respondents' views of the importance of healthy nutrition. *Anti-smoking orientation* refers to an overall tendency to be unfavorable about smoking, rather than a simple smoker-versus-nonsmoker dichotomy. It was assessed with a continuous measure that integrated four items (α = .83) on smoking behaviors and attitudes about being around smokers, such as "I prefer my environment to be smoke-free." Finally, seven items (α = .82) assessed *wellness orientation*, or respondents' general health awareness and behaviors regarding regular medical check-ups and taking preventive measures (e.g., "I am interested in ways of preventing illness."). Confirmatory Factor Analysis (CFA) showed that four-factor model (four types of orientations) fit the data well (CFI [Comparative Fit Index] = .90, IFI [Incremental Fit Index] = .90) and was better than one-factor model (CFI = .73, IFI = .73), $\Delta\chi^2(6) = 269.78$, $p < .001$.

3.4 Legitimacy of interventions.

Health programs and policies were grouped into three levels varying in severity for the three general areas of interest, smoke-free programs, employee fitness programs, and health-risk-appraisals. Legitimacy ratings were assessed by individuals indicating the extent to which they agreed or disagreed with each program and/or policy.

For smoke-free interventions, CFA showed that three-factor models (low, moderate, and high control) fit the data well (CFI = .95, IFI = .95) and was better than one-factor model (CFI = .87, IFI = .87), $\Delta\chi^2(3) = 305.87$, $p < .001$. Individuals' legitimacy rating of *low control of smoking behaviors* (Psclow) was assessed with seven items (α = .81) such as "An employer has the right to limit smoking to designated areas." Legitimacy ratings of *moderate control of smoking behaviors* (Pscmod) were assessed with five items (α = .82) such as "A company may use mandatory pre-employment nicotine testing." Legitimacy ratings of *high control of smoking behaviors (*Pschigh) were assessed with five items (α = .91) such as "One year after making a company smoke-free, an employer has the right to fire smokers that fail to quit smoking."

For employee fitness interventions, CFA showed that the three-factor model fit the data well (CFI = .91, IFI = .91) and was better than one-factor model (CFI = .83, IFI = .83), $\Delta\chi^2(3) = 455.04$, $p < .001$. Individuals' legitimacy ratings of *low control of employee fitness* were assessed with six items (α = .88) such as "It is okay for the company to encourage regular exercise by inviting employees to a company-wide fitness-challenge event" (Pfclow). *Moderate control* was assessed with five items (α = .83) such as "Depending on the employee's fitness level, a mandatory meeting with an assigned fitness coach may be imposed" (Pfcmod). High control was assessed with eight items (α = .91) such as "A company has the right to charge higher out-of-pocket health insurance contributions of employees who fail to improve their fitness scores substantially after one year" (Pfchigh).

Finally, for health risk appraisal interventions, CFA showed a three-factor model to be a better fit (CFI = .95, IFI = .95) than one-factor model (CFI = .87, IFI = .87), $\Delta\chi^2(3) = 897.53$, $p < .001$. One example of the five (α = .91) items measuring individuals' legitimacy rating of *low control over employee-health-risk appraisals* (Phclow) was "A voluntary sign-up opportunity for complementary physical check-ups is a valuable service to employees." Nine items (α = .92) measured *moderate control over employee-health-risk-appraisals* (Phcmod) (e.g., "An employer has the right to create annual health reports on all employees"). Seven items (α = .95) assessed *high control over employee-health-risk appraisals* (Phchigh) (e.g., "It is okay for an employer to prescribe annual blood tests to check for cholesterol levels.").

4 RESULTS

4.1 Overview

The data were examined with Hierarchical Linear Modeling (HLM) (Raudenbush & Bryk, 2002) because the research design involved repeated measures, and HLM allows separating the variance in the dependent variables (i.e., legitimacy ratings) into within-individual variance and between-individual variance. Control types (low, moderate, and high) was used to explain within-individual level variance in the dependent variables. For between-individual level variance in the dependent variable, individual health orientation variables (fitness, nutrition, anti-smoking, and wellness orientations) was used to explain the variance in the extent to which individuals differ in how they respond to each of the three control types for each health program. That is, HLM allowed for partitioning of variance in legitimacy ratings into segments accounted for by the three types of control (level-1 predictor) and stable individual differences (level-2 predictors). Table 2 shows HLM results.

Table 2: Multilevel analyses results

	Coefficient	*SE*	*t*	*df*	*p*-value
Smoke-Free Programs[1]					
For intercept 1, β_{0j}					
Intercept 2, γ_{00}	5.98	0.11	52.77	339	< .001
For control slope, β_{1j}					
Intercept 2, γ_{10}	–1.42	0.12	–12.19	110	< .001
Fitness, γ_{11}	0.13	0.09	1.44	110	.152
Nutrition, γ_{12}	–0.06	0.10	–0.61	110	.543
Anti-smoking, γ_{13}	0.26	0.08	3.06	110	.003
Wellness, γ_{14}	0.06	0.14	0.44	110	.661
Fitness Programs[2]					
For intercept 1, β_{0j}					
Intercept 2, γ_{00}	5.32	0.12	45.91	110	< .001
Fitness, γ_{01}	0.21	0.11	1.83	110	.070
Nutrition, γ_{02}	0.18	0.13	1.41	110	.162
Anti-smoking, γ_{03}	0.27	0.10	2.66	110	.009
Wellness, γ_{04}	–0.17	0.17	–0.95	110	.343
For control slope, β_{1j}					
Intercept 2, γ_{10}	–1.30	0.07	–19.43	110	< .001
Fitness, γ_{11}	0.02	0.06	0.36	110	.723
Nutrition, γ_{12}	–0.19	0.07	–2.65	110	.010
Anti-smoking, γ_{13}	–0.07	0.06	–1.09	110	.279
Wellness, γ_{14}	0.08	0.10	0.84	110	.404
Health Risk Appraisals[3]					
For intercept 1, β_{0j}					
Intercept 2, γ_{00}	5.33	0.11	47.06	110	< .001
Fitness, γ_{01}	0.12	0.11	1.11	110	.269
Nutrition, γ_{02}	0.26	0.12	2.08	110	.040
Anti-smoking, γ_{03}	0.18	0.10	1.78	110	.077
Wellness, γ_{04}	–0.19	0.17	–1.09	110	.278
For control slope, β_{1j}					
Intercept 2, γ_{10}	–1.47	0.07	–19.76	110	< .001
Fitness, γ_{11}	0.01	0.07	0.08	110	.938
Nutrition, γ_{12}	–0.25	0.08	–3.07	110	.003
Anti-smoking, γ_{13}	–0.04	0.07	–0.60	110	.553
Wellness, γ_{14}	0.19	0.11	1.74	110	.085

Note. Equations illustrating the model with grand mean centered level-2 predictors.

[1] *legitimacy of smoke-free programs*$_{ij} = \beta_{0j} + \beta_{1j}$*(Control Type)* $+ r_{ij.}$

$\beta_{0j} = \gamma_{00}$[§],

$\beta_{1j} = \gamma_{10} + \gamma_{11}$*(Fitness*$_j$*)* $+ \gamma_{12}$*(Nutrition*$_j$*)* $+ \gamma_{13}$*(Anti-Smoking*$_j$*)* $+ \gamma_{14}$*(Wellness*$_j$*)* $+ u_{1j,}$

[§] *This intercept was treated as fixed because the variance in the intercept 1 was not significant.*

[2] *legitimacy of fitness programs*$_{ij} = \beta_{0j} + \beta_{1j}$*(Control Type)* $+ r_{ij.}$

$\beta_{0j} = \gamma_{00} + \gamma_{01}$*(Fitness*$_j$*)* $+ \gamma_{02}$*(Nutrition*$_j$*)* $+ \gamma_{03}$*(Anti-Smoking*$_j$*)* $+ \gamma_{04}$*(Wellness*$_j$*)* $+ u_{0j}$,

$\beta_{1j} = \gamma_{10} + \gamma_{11}$*(Fitness*$_j$*)* $+ \gamma_{12}$*(Nutrition*$_j$*)* $+ \gamma_{13}$*(Anti-Smoking*$_j$*)* $+ \gamma_{14}$*(Wellness*$_j$*)* $+ u_{1j,}$

[3] *legitimacy of health risk appraisal programs*$_{ij} = \beta_{0j} + \beta_{1j}$*(Control Type)* $+ r_{ij.}$

$\beta_{0j} = \gamma_{00} + \gamma_{01}$*(Fitness*$_j$*)* $+ \gamma_{02}$*(Nutrition*$_j$*)* $+ \gamma_{03}$*(Anti-Smoking*$_j$*)* $+ \gamma_{04}$*(Wellness*$_j$*)* $+ u_{0j}$,

$\beta_{1j} = \gamma_{10} + \gamma_{11}$*(Fitness*$_j$*)* $+ \gamma_{12}$*(Nutrition*$_j$*)* $+ \gamma_{13}$*(Anti-Smoking*$_j$*)* $+ \gamma_{14}$*(Wellness*$_j$*)* $+ u_{1j,}$

4.2 Smoke-Free Programs

For individuals' legitimacy ratings of smoke-free programs, control type was a significant predictor of the within-individual variance, coefficient = –1.42, *SE* = 0.09, t = –15.34, $p < .001$, indicating that legitimacy ratings decreased as the control type moved from low to high. The control type explained 61.50% of the within-individual variance. To clarify the effect of control type, paired t-tests were conducted. Low control received higher legitimacy rating than moderate control, t (114) = 10.56, $p < .001$, $\eta^2 = .49$. Moderate control received higher legitimacy ratings than high control, t (114) = 5.33, $p < .001$, $\eta^2 = .20$. Means are reported in Table 1.

The analysis showed that the level-1 intercept (i.e., individuals' legitimacy ratings averaged across the three control types) did not vary significantly across individuals, variance = 0.48, $\chi^2(114) = 114.91$, $p = .46$, indicating no need for level-2 predictors. On the other hand, the level-1 slope (i.e., individual changes from low control to high) had a significant amount of variance across individuals, variance = 0.78, $\chi^2(114) = 364.71$, $p < .001$, indicating that the extent to which legitimacy rating decreased from low control to high was greater for some individuals than for others.

As shown in Table 2, individual health orientation variables (level-2 predictors) were included in the analysis to explain between-individual variance in the extent to which legitimacy ratings changed from low control to high (i.e., the variance in the level-1 slope). Including these level-2 predictors explained 12.29% of the variance in the level-1 slope. Among the predictors, only anti-smoking orientation was a significant and positive predictor, whereas fitness, nutrition, and wellness orientations were not significant. This finding indicated that as individuals had higher anti-smoking orientations, the slope became less negative; individuals with higher anti-smoking orientations showed less decrease in their legitimacy ratings from low control to high. To put it differently, legitimacy rating decrease from low control to high was more pronounced among those with lower anti-smoking orientations.

4.3 Fitness programs

For individuals' legitimacy ratings of fitness program, the control type was a significant predictor of the within-individual variance, coefficient = –1.30, *SE* = 0.07, t = –18.97, $p < .001$, indicating that legitimacy ratings decreased as the control type moved from low to high. The control type explained 80.44% of the within-individual variance. To clarify the effect of control type, paired t-tests were conducted. Low control received higher legitimacy rating than moderate control, t (114) = 13.19, $p < .001$, $\eta^2 = .60$. Moderate control received higher legitimacy rating than high control, t (114) = 12.43, $p < .001$, $\eta^2 = .58$. The analysis showed that the level-1 intercept (i.e., individuals' legitimacy ratings averaged across the three control types) varied significantly across individuals, variance = 1.33, $\chi^2(114) = 448.32$, $p < .001$, indicating the need for level-2 predictors to explain the variance in the level-1 intercept. The level-1 slope (i.e., individual changes from low control to high) had a significant amount of variance across individuals, variance = 0.30, $\chi^2(114) = 255.15$, $p < .001$, indicating that the extent to which legitimacy rating decreased from low control to high was greater for some individuals than for others.

As shown in Table 2, individual health orientation variables (level-2 predictors) were included in the analysis to explain between-individual variance in the individual average legitimacy ratings (i.e., the variance in the level-1 intercept) and also in the extent to which legitimacy ratings changed from low control to high (i.e., the variance in the level-1 slope). Including these level-2 predictors explained 14.29% of the variance in the level-1 intercept and 8.31% of the variance in the level-1 slope. Among the predictors, only anti-smoking orientation was a significant and positive predictor of the level-1 intercept, whereas fitness, nutrition, and wellness orientations were not significant. This finding indicated that the higher an individual's anti-smoking orientation, the higher his or her average legitimacy ratings across the three types of control. Among the predictors, only nutrition was a significant and negative predictor of the level-1 slope. This finding indicated that the higher an individual's nutrition orientation, the more negative the slope became; individuals with higher nutrition orientations showed greater decrease in their legitimacy ratings from low control to high. Put differently, the decrease in perceived legitimacy from low control to high was less pronounced among those with lower nutrition orientations.

4.4 Health risk appraisal programs

Finally, for individuals' perceived legitimacy scores of health risk appraisal program, the control type was a significant predictor of the within-individual variance, coefficient = –1.47, SE = 0.08, t = –19.17, $p < .001$, again indicating that legitimacy ratings decreased as the control type moved from low control to high. The control type explained 78.27% of the within-individual variance. To clarify the effect of control type, paired t-tests were conducted. Low control received higher legitimacy rating than moderate control, t (114) = 15.98, $p < .001$, $\eta^2 = .69$. Moderate control received higher legitimacy

ratings than high control, t (114) = 10.44, $p < .001$, $\eta^2 = .49$. The analysis showed that the level-1 intercept (i.e., individuals' legitimacy ratings averaged across the three control types) varied significantly across individuals, variance = 1.02, $\chi^2(114) = 314.18$, $p < .001$, indicating the need for level-2 predictors to explain the variance in the level-1 intercept. The level-1 slope (i.e., individual changes in legitimacy ratings from low control to high) had a significant amount of variance across individuals, variance = 0.33, $\chi^2(114) = 223.36$, $p < .001$, indicating that the extent to which legitimacy rating decreased from low control to high was greater for some individuals than for others.

As shown in Table 2, individual health orientation variables (level-2 predictors) were included in the analysis to explain between-individual variance in the individual average legitimacy ratings (i.e., the variance in the level-1 intercept) and also in the extent to which legitimacy ratings changed from low control to high (i.e., the variance in the level-1 slope). Including these level-2 predictors explained 11.65% of the variance in the level-1 intercept and 11.90% of the variance in the level-1 slope. Among the predictors, only nutrition orientation was a significant and positive predictor of the level-1 intercept, whereas fitness, anti-smoking, and wellness orientations were not significant. This finding indicated that as individuals had higher nutrition orientations, their average legitimacy ratings across the three types of control were higher. Among the predictors, only nutrition orientation was a significant and negative predictor of the level-1 slope. This finding indicated that the higher individuals' nutrition orientations, the more negative the slope became; individuals with higher nutrition orientations showed greater decrease in their legitimacy ratings from low control to high. To put it differently, the decrease in perceived legitimacy from low control to high was less pronounced among those with lower nutrition orientations.

5 DISCUSSION

This study addressed how future employees would feel about different levels of workplace health control in smoking, employee fitness, and health risk assessments. As employers are increasing to regulate these three main areas of health, the economic benefits of corporate health initiatives will need to show real improvements in individuals' health and fitness, and, at the same time, should be considered as a valuable service by employees. Otherwise, concerns can be raised about a gradual undermining of employees' privacy and the subtle perpetuation of managerialist ideologies ("get fit or get fired") (Kirby, 2006; Park et al., 2008; Zoller, 2003). Given the powerful influence that the implementation of health programs can have on employees' perceptions (Zoller, 2003), this study examined perceptions of an undergraduate sample still relatively untouched by corporate health promotion.

Concerning whether and how perceived legitimacy of health policies and programs would change with increasing levels of control exerted by the employer, the current findings showed that as control increases, ratings of legitimacy decreased. There is concern for the privacy of behaviors "off the clock." Several of the respondents in this study indicated rather strong objections to certain types of control, and even added spontaneous and unsolicited comments such as "None of their business!!" to measurement items such as "It is okay for the company to change employees' general eating behaviors." The significant decrease in perceived legitimacy resulting from increases in control level/type illustrates that even among this young, generally health conscious sample, concerns about privacy still take precedence over the potential personal health benefits that may result from being pressured into living healthy. Factors such as involuntariness, severe consequences of noncompliance, and extension of control beyond the workplace and after business hours have previously been shown to enhance the likelihood of reactance and decreased morale among employees in reaction to workplace health promotion (Greer & Labig, 1987; Truxillo et al., 2002; Zoller, 2004).

When examining how personal health orientations, i.e. those related to fitness, nutrition, smoking, and wellness awareness, would affect the perceptions of legitimacy of employer control of health behaviors related to these areas, a few interesting findings emerged. For smoke-free programs, overall legitimacy ratings did not vary across individuals, while the slope of the decrease with increasing control did vary depending on individuals' anti-smoking orientations. Individuals with stronger anti-smoking orientations still perceived high control as less legitimate than low control, but this reduction was significantly less pronounced than for individuals less opposed to smoking. Other health-related orientations did not moderate the decrease, suggesting that to a certain degree these legitimacy perceptions are not global, but policy-specific.

For employee fitness programs, not only the slope of the decrease but also perceived overall legitimacy across the control levels/types varied significantly across individuals, which indicates an twofold need to understand moderating factors. Again, only a directly "relevant" personal orientation, in this case nutrition orientation, was a significant predictor. Interestingly, the pattern here was different from the one observed for smoke-free programs: In the case of fitness programs, those

individuals with *lower* nutrition orientations perceived a slower decrease of legitimacy of fitness control. One might speculate that this finding reflects a perceived value in being regulated on this issue. It is possible that respondents who indicated low nutrition orientations perceived value in being "forced into shape," but this speculation certainly demands further study.

Lastly, overall legitimacy of health risk appraisals across the three levels varied across individuals, as did the slopes of the observed decrease. Analysis of the personal health orientations again revealed nutrition orientation as a significant moderator of the decrease, in such a way that for individuals valuing healthy nutrition more highly, legitimacy ratings decreased more steeply than for less involved individuals. As with fitness programs, a reactance-based explanation may fit these findings: Individuals who are more highly aware of how to take care of themselves may perceive the regulation through the workplace as less necessary and more patronizing than individuals with lower awareness. Surprisingly, this finding did not hold for the most closely related health-related orientation; namely, wellness orientation which was based on the perceived value of physical check-ups and general health awareness. It could be noted, however, that wellness orientation did produce a near-significant (p = .085) effect on the slope of decreased legitimacy. It is possible that among young people as in the current sample, healthy nutrition is a stronger indicator of overall health-awareness than the adherence to check-up regimens (which tend to become more relevant to middle-aged and older individuals).

5.1 Implications of the findings

The current findings provide implications that governments, health associations, and top managements may need to consider before implementing worksite programs and policies aiming at employee health. Desirable outcomes of worksite programs and policies can be more likely to result from checking the legitimacy perceptions of people who will be affected by the programs and understanding their health-related orientations. What the governments, health associations, and/or top-managements consider legitimate control of employee health behaviors may or may not be perceived legitimate by the current and prospective employees. Park et al. (2008) interviewed employees of companies that implemented a legally legitimate and highly severe smoke-free program (e.g., firing smokers). Park et al.'s findings implied that such policies can make employees question the true purpose of the policy and can negatively affect the organizational culture. On the other hand, people can change their perceptions of legitimacy. As time goes by, general shifts in perceptions are likely to occur. Cropanzano and Konovski (1995), for example, noted drastic change in perceived legitimacy of employee drug testing between the 1960's and 1990's. When corporate control strategies are introduced gradually, communicated skillfully, and accompanied by significant support, they may raise individuals' tolerance for control substantially, making repeated assessment of employee perceptions over time a valuable basis for the assessment of such trends in the broader area of corporate health policies.

Because the current study used a sample of undergraduates in the United States, the implications of the findings may be limited within the national boundary. Countries differ in the public and private coverage of health insurances and governmental regulations of health-related programs and policies at worksites. A recent study by Klautke, Park, Lee, Hong, and Kang (2010) replicated the current study with samples of Korean undergraduates and working adults. For one thing, Klautke et al. (2010) examined only two of the three types of health-related programs, leaving out health risk appraisal programs. Because health risk appraisal programs were mostly under the control of governmental regulations, little variations existed in employer control levels. Nevertheless, some differences as well as similarities existed between the current study and Klautke et al. (2010) in how personal health-related orientations affected people's legitimacy perceptions of smoke-free programs and employee fitness programs. For example, anti-smoking and nutrition orientations were important factors affecting people's legitimacy perceptions in both Korea and the United States. However, the effect of nutrition orientation on legitimacy perceptions of fitness programs was different between Korea and the United States. Unlike Americans in the current study who showed that the decrease in perceived legitimacy from low control to high was less pronounced among those with lower nutrition orientations, Koreans in Klautke et al (2010) showed that legitimacy decreasing from low control to high was less pronounced among those with higher nutrition orientation. Thus, future studies may need to explore why and how nations can differ in the way personal health-related orientations affect people's legitimacy perceptions of worksite health programs.

5.2 Limitations of current study and suggestions for further research

Only a very small set of factors moderating the perception of workplace health promotion was examined in this study. Past research has shown that several elements of procedural justice can strongly influence employees' reactions (including job satisfaction, trust in management, and performance) to

management actions such as drug testing (Colquitt, 2001; Cropanzano, Prehar, & Chen, 2002; Dolan, Edlin, Tsuchiya, & Wailoo, 2007). Along similar lines, the opportunity to contribute to the shaping of the policy as well as consistency in implementation across all levels of the organization have been shown to not only enhance ownership of health policies, but also influence healthy behaviors directly (Kouvonen et al., 2007). Thus, future studies focusing on varying levels of organizational support and procedural justice features may provide additional insights to assumptions that individuals make regarding health policies (e.g., how the policies came to be, how they were communicated, etc.).

Additional factors can be expected to play a role. The complexity of the issue is illustrated well by anecdotal evidence indicating that policies banning smoking from the workplace led to fewer disciplinary and employee moral problems than those that attempt to regulate, rather than eliminate, smoking at the worksite (Sofian et al., 1994). However, the current findings and previous ones (Dalsey & Park, 2009; Dalsey et al., 2007; Greer & Labig, 1987) show that severity of policies decreased outcomes such as organizational attractiveness and perceived legitimacy among job candidates and current employees.

The industry under consideration is also likely to play a role. In Zoller's (2003) ethnographic case study physical workers at an automobile manufacturing plant showed considerable buy-in into the corporate ideology that "only a healthy and fit employee is a good employee." It is possible that sedentary office workers would show more resistance to such a norm - since their immediate ability to perform their jobs is not impacted as directly by a lack of physical fitness.

6 CONCLUSION

The rapid growth in health care expenses and the cost saving potential of workplace health interventions are going to ensure that issues such as "personal" fitness are no longer just personal. In this context, understanding not only the return of investment, or even the best practices to generate employee buy-in, will only give a very limited picture of this issue of workplace health promotion. For practitioners (e.g., Goetzel & Ozminkowski, 2000; Hunnicutt, 2001) and critical observers of corporate health programming alike (e.g. Kirby, 2006, Zoller, 2003), empirically assessing perceptions of the recipients of the interventions will be essential.

APPENDIX: MEASUREMENT ITEMS

I. Personal Health-Related Orientations (1 = strongly disagree, 7 = strongly agree)

Fitness
1. I exercise on a regular basis.
2. I consider myself to be in "good shape."
3. I plan on being in good shape throughout my life.

Nutrition
1. I maintain a well-balanced diet.
2. I eat fast-food regularly.
3. I eat several servings of fruits and/or vegetables almost every day.

Anti-smoking
1. I smoke cigarettes a lot.
2. I am a steadfast non-smoker.
3. I prefer my environment to be smoke-free.
4. Smoking is more serious a threat than most people seem to think.
5. (As a nonsmoker) I cannot see myself smoking ever./ (As a smoker) I am motivated to quit.

Wellness
1. Health is an important topic for me.
2. I consider myself well-educated on health-matters in general.
3. I get physical check-ups in approximately the recommended intervals.
4. Overall, my lifestyle is healthier than that of most people.
5. I am interested in ways of preventing illness.
6. For the most part, people can control their health through lifestyle choices.
7. Many common diseases could be prevented through proper lifestyle choices.

II. Legitimacy of Interventions (1 = strongly disagree, 7 = strongly agree)

Low control of smoke-free programs (Psclow)

1. An employer has the right to limit smoking to designated areas.
2. An employer has the right to limit smoking to personal breaks.
3. A policy ensuring that non-smokers will not be exposed to any smoke at work is fair.
4. An employer has the right to tell employees not to smoke on the job.
5. An employer has the right to keep company premises smoke-free.
6. An employer can prohibit smoking during work hours.
7. An employer can prohibit smoking anywhere at the worksite.

Moderate control of smoke-free programs (Pscmod)

8. An employer has the right to enforce a smoke-free workforce.
9. An employer has the right to only hire non-smokers.
10. After a one-year transition period, using (announced) nicotine testing and prescribing counseling for positively tested employees is fair.
11. A company may use mandatory pre-employment nicotine testing.
12. Mandatory nicotine testing can be a part of employment screenings.

High control of smoke-free programs (Pschigh)

13. An employer has the right to prohibit employees' "after work" cigarette.
14. One year after making a company smoke-free, an employer has the right to fire smokers that fail to quit smoking.
15. One year after making a company smoke-free, an employer has the right to administer random nicotine testing to make sure employees follow the new non-smoking policy.
16. Individuals who fail the random nicotine tests may be charged penalties up to $50 out of their weekly paychecks.
17. Individuals who fail the random nicotine tests may be required to buy their own health insurance.

Low control of employee-fitness programs (Pfclow)

1. Depending on the employee's level of physical fitness, the company can suggest a complementary meeting with a fitness coach.
2. It is ok for the company to discourage high-fat meals, e.g. through elimination of fatty cafeteria foods, informational posters and materials.
3. The company may suggest a complementary meeting with a nutrition specialist.
4. It is ok for the company to discourage junk-food snacks, e.g. by eliminating vending machines and providing informational materials on healthy alternatives.
5. It is ok for the company to encourage regular exercise inviting employees to a company-wide fitness-challenge event.
6. It is appropriate for a company to thoroughly advertise their fitness facilities/discounted membership program for the local gym.

Moderate control of employee-fitness programs (Pfcmod)

7. It is ok for the company to prescribe exercise regimens to employees, as long as valid medical excuses will be considered.
8. Depending on the employee's fitness level, a mandatory meeting with an assigned fitness coach may be imposed.
9. "Weight-loss-competitions" between departments (where no individual's weight is disclosed publicly) are a fun way to encourage healthy life changes.
10. Depending on the employee's fitness level, a mandatory meeting with an assigned nutrition specialist may be imposed.
11. A "good driver's discount" with health insurance (i.e., lower out-of pocket cost for employees meeting certain fitness standards) is a fair approach to encouraging healthy lifestyles.

High control of employee-fitness programs (Pfchigh)

12. It is okay for the company to change employees' general eating behaviors.
13. It is fair to enforce a company-imposed exercise regimen by charging employees who are "slacking" higher co-pays and deductibles on their health insurance.

14. It is okay for the company to require employees' participation in a company-wide fitness-challenge event.
15. A company has the right to charge higher out-of-pocket health insurance contributions of employees that fail to improve their fitness scores substantially after one year.
16. A company may impose exercise regimens for all employees without considering any medical excuses.
17. An employee failing to meet fitness goals prescribed by a trained coach may be required to buy his/her own health insurance.
18. An employee refusing to comply with company-fitness regimens after a one-year grace period can be fired.
19. An employee failing to improve any fitness scores despite significant support offered by the company can be fired after a three year grace period.

Low control of health risk appraisal programs (Phclow)

1. A company-wide "Health-Risk Awareness Week," including speakers, information brochures and posters on major risk factors, is a great way to improve employee health awareness.
2. A voluntary sign-up opportunity for complementary physical check ups is a valuable service to employees.
3. A voluntary competition such as "Get your Department's Body-Mass-Index in Shape" is a fun way to raise awareness on the importance of maintaining a healthy weight.
4. Placing scales for personal weight-control throughout the company (e.g. in break rooms, changing rooms) is a useful service.
5. It is appropriate for an employer to encourage participation in voluntary, company-sponsored programs on lifestyles and habits (e.g., smoking, drinking, exercising).
6. It is appropriate for an employer to encourage participation in voluntary, company-sponsored programs on health care practices (e.g., importance of regular pap tests/breast-self exams, skin exams for cancer detection).

Moderate control of health risk appraisal programs (Phcmod)

7. Having all employees fill out self-reported checklists of major health indicators (e.g., height, weight, blood pressure, level of physical activity) once a year is an appropriate way for an employer to keep health-awareness high.
8. Having a health coach assess personal and family medical history (e.g., heart problems, diabetes, suicide, cancer) is an appropriate way for an employer to encourage employees to live healthier lives.
9. A personalized "Health-Risk-Report" listing the individual's top 5 causes of death in the order of likelihood for the individual is an appropriate way for an employer to encourage lifestyle changes.
10. Having a health coach calculate employees' "risk age" (which may be higher than the actual age, if key health indicators are bad) is appropriate in order to motivate employees to improve on these indicators.
11. An employer has the right to require employees to sign up for mandatory physical check-ups.
12. An employer has the right to create annual health reports on all employees.
13. An employer can base employment decisions on pre-employment physical examinations.
14. It is legitimate for the company to keep a personal health file for every employee, including the results of annual required physicals.
15. Employees who fail to lower their "risk age" over the course of three years can be asked to pay higher out-of-pocket costs for their health insurance.

High control of health risk appraisal programs (Phchigh)

16. High-risk employees can be required to work with a provided health coach to improve their health scores (e.g., BMI, blood pressure, etc.).
17. High-risk employees who refuse to work with a health coach provided by the company can be charged a monthly penalty for noncompliance.
18. It is okay for a an employer to prescribe annual blood tests to check cholesterol levels.
19. If an employee's cholesterol levels are high, the company can make him/her pay a penalty of $5 per period exceeded allowance—penalties up to $ 30/paycheck
20. If an employee's cholesterol levels are high, the company can make him/her buy their own health insurance.

21. High-risk employees who boycott programs and support offered by the company can be fired after a grace period of 3 years.
22. High-risk employees who continue to increase their "risk age" can be fired after a grace period of 3 years.

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