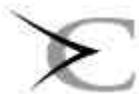


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**On the Mediational Role of Feelings of
Self-Determination in the Workplace:
Further Evidence and Generalization**

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On the Mediation Role of Feelings of Self-Determination in the Workplace: Further Evidence and Generalization*

Marc R. Blais[†] and Nathalie M. Brière[‡]

Résumé / Abstract

Les objectifs de cette étude visaient à vérifier la généralisation des résultats de Deci et al. (1989) et à évaluer la validité d'un modèle préliminaire de qualité de vie au travail dans lequel les sentiments d'autodétermination jouent un rôle important en tant que médiateurs. Ce modèle stipule que les environnements de travail informationnel et contrôlant auront des impacts opposés sur les sentiments d'autodétermination. Ces sentiments devraient par la suite influencer directement des comportements organisationnels et des variables de santé de l'employé. 184 employés canadiens francophones provenant de différentes organisations ont répondu à l'une des deux versions d'un questionnaire assigné aléatoirement. Les deux échantillons servaient à évaluer le modèle en utilisant deux perspectives d'environnement de travail : informationnel et contrôlant. Dans l'échantillon 1, les employés évaluaient le style du supérieur immédiat alors que dans l'échantillon 2, les sujets évaluaient le climat global de travail. Les résultats d'analyses corrélationnelles et des pistes causales ont confirmé les liens postulés entre les perceptions d'environnement de travail informationnel/contrôlant, les sentiments d'autodétermination et la qualité de vie au travail. Les sentiments d'autodétermination ainsi que la satisfaction et l'intérêt au travail jouaient un rôle de médiateur afin de prédire des impacts proximaux (perceptions d'absentéisme volontaire, distraction au travail et intentions de quitter son travail) de même que des impacts plus distaux (perception de problèmes de santé physique et mental, consommation de tabac et d'alcool). Ces résultats étaient confirmés dans les deux échantillons.

The goals of this study were to extend and to verify the generalizability of Deci et al.'s (1989) results, and to test the validity of a preliminary quality of worklife model in which feelings of self-determination play a key mediational role. This model states that informational and controlling work environments will impact in opposite ways on feelings of self-determination. These feelings should then trigger positive impacts on global work satisfaction and work interest. These two latter variables, in turn, are postulated to impact directly on organizational behaviors and general health variables. Subjects were 184 full-time French Canadian employees from different work settings. They were randomly assigned to one of two versions of a questionnaire assessing the different constructs of the model. Two samples were created to cross-validate results and to test the model with two different loci of perceived informational and controlling work environments. In sample 1, subjects assessed their

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perceptions of their immediate supervisor's styles whereas in sample 2, subjects assessed their perceptions of the global work climate. Results from correlational and path analyses confirmed the predicted relationships between perceptions of informational/controlling environments, feelings of self-determination and the quality of worklife. The expected mediational role of feelings of self-determination as well as of work satisfaction and interest in explaining proximal impacts (i.e., self-perceptions of voluntary absenteeism, distraction at work, and intentions to change job) as well as more distal impacts (i.e., self-perceptions of mental and physical health, cigarette, and alcohol use) was confirmed across samples.

Mots clés : Style du supérieur, climat de travail, théorie de l'autodétermination, motivation, satisfaction, distraction, intentions de quitter, absentéisme, santé, consommation tabac et alcool

Keywords : Supervisory style, Work climate, Self-Determination Theory, Motivation, Satisfaction, Interest, Distraction, Motivation, Intent to quit, Absenteeism, Health, Drinking and Smoking

On the Mediational Role of
Feelings of Self-Determination in the Workplace:
Further Evidence and Generalization

In a recent paper, Deci, Connell, and Ryan (1989) presented initial evidence in support of self-determination theory (Deci & Ryan, 1985; 1987) as applied to the work domain. The main hypothesis stated that managers' informational style would be related to subordinates' positive work experiences whereas a managers' controlling style would lead to negative work experiences. An informational managerial style refers to interpersonal behaviors that support autonomy, provide competence feedback, and acknowledge the subordinate's perspective. A controlling managerial style refers to interpersonal behaviors that constrain or pressure subordinates' thinking, feeling, or behaving.

Deci et al. (1989) tested this hypothesis within a large corporation where managers received an intervention program geared to develop their abilities to be more informational and less controlling toward subordinates. Both managers and subordinates (business machine technicians) completed self-reports prior to and after the intervention. Managers answered the Problems at Work Questionnaire which assessed their tendency to be controlling versus informational towards their subordinates. Subordinates responded to the Work Climate Survey which assessed different perceptions, affects, and satisfactions of their worklife. The authors reported that the intervention program improved managers' abilities to support self-determination and that this improvement was related to subordinates' reports of the quality of worklife.

According to self-determination theory, the link between managers' controlling/ informational styles and subordinates' quality of experience should be mediated by feelings of self-determination. In other words, the postulated causal links would be as follows: Manager's interpersonal styles (i.e., controlling/informational) => Subordinate's feelings of self-determination => Subordinate's experience of quality of worklife. In the Deci et al. (1989) study, it was shown that managers' interpersonal styles were significantly related to quality of worklife measures (e.g., general work satisfaction), although the mediating role of feelings of self-determination was not explored. Thus, the first aim of the present study was to test the hypothesized

mediational role of feelings of self-determination between the interpersonal climate and subordinate's attitudes toward work.

In the current study, unlike that of Deci et al. (1989), we assessed subordinates' perceptions of work climates rather than assessing managers' (supervisors') styles as reported by the managers themselves. This allowed us to pursue our second aim, to look separately at subordinates' perceptions of (1) the informational versus controlling styles of their supervisors, and (2) the informational versus controlling general climate of their workplace.

The third aim of this study was to move beyond workers' attitudes to explore the consequences of these attitudes on workers' self-perceptions of organizational behaviors and health/lifestyle variables. We hypothesized that more positive work attitudes such as work satisfaction and interest, would directly affect subordinates' perceptions of health and work related behaviors. The mediational role of variables such as work satisfaction on organizational behaviors and health related variables has also been conceptualized and documented empirically by other authors (e.g., Jackson, 1983; Mobley, Griffeth, Hand, & Meglino, 1979; Price & Mueller, 1981). Thus, in this study we tested a model of quality of worklife, based on self-determination, which postulates that perceptions of the work environment triggers feelings of self-determination which then influence on work-related attitudes. These attitudes should then impact on proximal outcomes of work attendance and attention, and the more distal outcomes of physical and psychological health. The model is presented in more detail in Figure 1.

Insert Figure1 about here

In the model, we specifically hypothesized that perceptions of informational and controlling work environments would influence feelings of self-determination in opposite ways. Perception of an informational work environment should enhance feelings of self-determination whereas perception of a controlling environment should undermine feelings of self-determination. Greater feelings of self-determination at work should then lead to greater experiences of work satisfaction and work interest. Greater satisfaction and

interest at work, in turn, should lead to lower self-reports of distraction at work, absenteeism at work, and intentions to change work. Finally, level of work satisfaction and interest should also have positive impacts on perceived mental and physical health, both as rated globally and as reflected in lower prevalence of unhealthy habits such as alcohol, and cigarette use.

We tested the viability of this model by means of path analyses and by a cross-validation procedure. We conducted the analyses with two samples while using two different types of perceived informational and controlling work environments. In sample 1, we assessed specific perceptions of the immediate supervisor's informational and controlling styles, whereas in sample 2, we evaluated the role of general perceptions of informational and controlling work climates. Evidence supporting the general hypothesis of self-determination theory derived from these two different loci of perceived informational and controlling work environments would provide an empirical base for the convergent validity of the theory as applied to the work environment. As well, extending Deci et al.'s (1989) results by means of path analyses would help to clarify the processes underlying their results. Finally, it is worth noting that this test of self-determination theory in the workplace used French Canadian (rather than American) full-time employees involved in various work settings, thus assessing the generalizability of the Deci et al. (1989) results.

Method

Subjects

One hundred and eighty-four full time employees (122 men and 62 women) completed one of two versions of a questionnaire assessing the different constructs of the model. The majority of these employees (i.e., 64.3%) worked in the public service area (police officers, telephone service dispatchers, and teachers). Other groups of respondents (i.e., 11.4%) were employed in the area of health services (nurses and physiotherapists) and in the private sector (workers in a clothing factory, 24.3%). Subjects were all French-

speaking residents of the Province of Quebec, Canada. Mean age was 32.3 (SD = 8.1). The majority of respondents were married/cohabiting (55.7%).

Subjects had an average of 7.6 years (SD= 7.2) of experience in the specific work they were presently doing, and had been with the same employer for 8.9 years on average (SD= 7.7). In terms of work schedules, 55.7% were working on regular day shifts, 42.2% on irregular shifts and 2.2% on night shifts. They worked an average of 38.2 hours a week (SD = 6.2). The mean income reported was of \$32,288.87 (SD = 11,541.9) Canadian dollars. The majority of employees (i.e., 56.5%) were satisfied with salary conditions, whereas 27.2% were unsatisfied with salary conditions, and 16.3% were neither satisfied nor unsatisfied. All respondents had daily contacts with their immediate supervisor.

Instruments

All of the scales' items were evaluated for face validity by two graduate students in social psychology and a graduate student in Business Administration who knew the conceptual distinctions of the different scales developed. Furthermore, human resources personnel from a large firm verified the ecological relevance, the clarity, and the comprehensibility of the different items. Table 1 presents the number of items, standardized alpha coefficients, means, and standard deviations for all of the scales that were completed by subjects in sample 1 and sample 2. In general, internal consistency (when applicable) for every scale ranged from acceptable to excellent in both samples¹ (see Table1).

 Insert Table 1 about here

Informational and controlling perceptions and self-determination. The only scales that were different for the two samples were the scales assessing supervisory styles (sample 1) and the scales assessing general work climates (sample 2). The two measures were adaptations from Deci et al.'s (1989) "Quality of Supervision" scale for supervisory styles and their "Environment scale" for perceptions of work climates. The supervisory styles scale consisted of two subscales assessing informational and controlling styles. Subjects were asked to indicate the extent to which their immediate supervisor was interacting with them in a given way (0 = "never" to 5 = "always"). A sample informational item was: "My immediate supervisor asks for

and seriously considers my opinion regarding decisions involving different aspects of my work". A controlling item was: "I am very closely monitored by my immediate supervisor". For the general perceptions of work climate subscales, subjects were asked to indicate the frequency with which they experienced different work climates (0 = "never" to 5 = "always"). For example, an informational climate item was: "A climate facilitating the development of my autonomy" whereas a controlling climate item was: "A stiff and constrained climate".

A similar six point frequency scale was used to assess feelings of self-determination. The scale consisted of items such as: "I feel free while doing my work".

Work related dependant variables. The work satisfaction scale is an adaptation from the satisfaction with life scale (Diener, Emmons, Larsen, & Griffin, 1985; French version by Blais, Vallerand, Pelletier, & Brière, 1989) wherein the term "life" was replaced by "work". The construct reflects a global cognitive evaluation of the quality of worklife. A sample item was: "If I could change anything in my work I would change practically nothing". Subjects were asked to rate the frequency to which they agreed or disagreed with each item on a scale ranging from 1 to 7. The work interest scale assessed negative and positive attraction toward work (e.g., "It is unpleasant to wake-up on a work day"). The scale is answered on the same frequency scale as the informational and controlling work environments scales described above. The distraction and the absenteeism self-reports were also assessed on the same frequency scale. A sample distraction item was: "When I am doing my work, I think about something other than my work". The absenteeism self-perception scale was assessed by items such as: "I take a day (or more) of absence at work".

Health self-perceptions. Physical and mental health self-perceptions were assessed on a four point scale ranging from "Not good" to "Very good" by two items such as "Evaluate your present mental (physical) health". The global assessment of health status through even a single item has been reported to be highly correlated with actual health status (Bloom, 1988; National Health Center for Health Statistics, 1983, 1984). Subjects were also asked to report on the amount of alcohol (drinks), and cigarettes (i.e., packages) they were consuming. The monthly usage rates were used for analyses.

In the final section of the questionnaire, subjects were asked to complete socio-demographic questions concerning personal and work related information.

Procedures

There were two versions of the questionnaire, which were identical in all respects except that one assessed perceptions of the immediate supervisor and the other assessed perceptions of the general work climate. The two versions of the questionnaire were distributed to about half the employees within each job in an alternating way to all employees. This produced two comparable samples of employees doing various kinds of work. The questionnaires were administered at the work site in conference rooms, to groups of 30 or less at a time.

The instructions to the subjects were intended to establish a rapport with them, to minimize social desirability, to assure them of confidentiality, and to give clear directions. Subjects were told that they could refuse to answer the questionnaire or stop answering it at any time. They were reminded not to write their name on the questionnaire in order to ensure the anonymity of responses.

Results

Factorial structure for predictor variables

Principal component analyses with oblimin rotations were conducted on the predictor scales for each sample in order to verify empirically that the variables reflected different underlying constructs.

Informational and controlling perceptions and self-determination. First a factor analysis was performed on the items that had been intended to assess the controlling and the informational supervisory styles (sample 1) or work climates (sample 2), as well as feelings of self-determination. A three factor solution was supported in both samples. All items loaded on their corresponding scale/factor. There was only one informational item that cross-loaded on the controlling factor in sample 1. This cross-loading was nevertheless in the opposite direction (i.e., negative loading) to the other items loading on the controlling factor. All loadings were above .47 and the three factor solution accounted for 58.5% and 71.9% of the variance for sample 1 and 2, respectively.

Work satisfaction and work interest. For both samples, a two factor solution was supported and all items loaded on their corresponding scale. The only cross-loadings revealed were in sample 1 with two of the six work interest items cross-loading on the satisfaction factor. Their strongest loadings were nevertheless on the interest factor. The solutions accounted for 54.5% and 63.3% of the variance, respectively.

Correlations among scales

Table 2 presents the intercorrelations among scales for sample 1 and sample 2. Perceptions of informational supervisory style (sample 1) or of informational work climate (sample 2) are related positively with feelings of self-determination as well as with work satisfaction and interest. They also relate negatively with more negative organizational behaviors such as absenteeism and distraction. The inverse of this pattern of correlations was revealed with respect to the controlling supervisory style (sample 1) and the controlling climate (sample 2). Feelings of self-determination, work satisfaction and work interest also revealed the expected significant relationships with organizational and health related variables in both samples. With regard to the relationships between the predictor variables and self-reported use of cigarette and alcohol, some consistent significant relationships were revealed, but in the majority of cases the coefficients were weak. However, it is noteworthy that alcohol use was inversely related to feelings of self-determination in both samples. Feelings of self-determination were also negatively related to cigarette use in sample 2. In sum, the postulated predictor variables are related in the expected direction with the various criterion variables. These results are relatively consistent across samples. The majority of exceptions were with the life habits reports of cigarette and alcohol use which revealed weaker coefficients and less consistent relations with the predictor variables.

Insert Table 2 about here

Path analyses

The model postulated in Figure 1 was tested by means of fully recursive path analyses using the multiple regression technique (Pedhazur, 1982). The multiple regressions first included all possible predictor variables in the equation to explain a given criterion (see Figure 1). Subsequent multiple regressions on the

same criterion variable were conducted in accordance to a theory-trimming process (Pedhazur, 1982). Specifically, the first analysis was repeated but with only predictors that had revealed a beta above .25 or a significant beta in the preceding analysis. Results of all multiple regressions conducted to test the hypothesized linkages of the model are presented in the Appendix. Figures 2 and 3 summarize the findings in a path model for samples 1 and 2 respectively. In sum, all paths presented in these figures are those that revealed significant linkages ($p < .05$; see the Appendix for specific probability levels). Furthermore, the mediational hypothesis for a given criterion was tested by including as predictors, the variable(s) postulated to have a direct effect (i.e., the mediator-s) as well as the other antecedent variables that are postulated to have an indirect effect. If the variable(s) postulated to have a direct effect was revealed to be the only significant predictor for the criterion, then these result provide some support for the mediational hypothesis. Results presented below, reveal the final results from these analyses.

Sample 1. Perceptions of informational and controlling supervisory styles jointly contributed to explain 22% of the variance of feelings of self-determination at work. Work satisfaction and work interest were then only predicted by feelings of self-determination which explained 25% and 28% of their respective variance. The mediational role of self-determination is thus supported, showing that the exogenous variables contributed to explain both satisfaction and interest only through their influence on feelings of self-determination. Results concerning organizational behaviors revealed that work interest was the only predictor of self-reports of absenteeism and of distraction, explaining 27% and 33% of the variance, respectively. Furthermore, intentions to change job was predicted by both work satisfaction and feelings of self-determination which explained 32% of the variance.

With respect to predicting the health self-reports, both work satisfaction and work interest were found to contribute. Both predictors accounted for 14% of self-reports of physical health. Work satisfaction, work interest, and perceptions of informational work climate explained 33% of the variance of reports of mental health. Furthermore, work interest was the only significant predictor of alcohol use, explaining 6% of the variance. No significant equation was revealed with respect to cigarette use.

Insert Figure 2 about here

Sample2. Regression analyses revealed that when both informational and controlling work climates are considered, only the former significantly predicted feelings of self-determination, explaining 37% of the variance. Self-determination in turn, was the only significant predictor of work interest, explaining 54% of the variance. Work satisfaction was also predicted by feelings of self-determination but the informational and the controlling work climates contributed in explaining 57% of its total variance (see Figure 2). The mediational role of self-determination was thus supported for work interest but weakly supported for work satisfaction as the exogenous variables did appear to have moderate but significant direct effects. In terms of organizational variables, work interest was revealed to be the only predictor of self-reports of absenteeism explaining 26% of the variance. Furthermore, work interest was the strongest predictor of distraction along with influences from feelings of self-determination and a controlling supervisory style (inverse relationship). These three predictors explained 49% of the variance of distraction. Finally, intentions to change job were predicted by both work satisfaction and feelings of self-determination, explaining 35% of the variance.

With respect to predicting the health/habits self-reports, work satisfaction was found to be the only significant predictor for mental health, and cigarette smoking, explaining, 40% and 10% of their respective variance. Self-report of physical health was predicted by both work interest and work satisfaction, explaining 22% of the variance. No significant equation was revealed with respect to alcohol use.

Insert Figure 3 about here

Discussion

The goals of this study were to extend and to verify the generalizability of Deci et al.'s (1989) results, and to test the validity of a preliminary quality of worklife model in which feelings of self-determination play a key mediational role. In general, the results not only confirm Deci et al.'s documented relationships but also extend their findings in several ways that lend further support to the validity of self-determination theory.

Furthermore, the present results provide initial support for a preliminary self-determination model of the quality of worklife.

The cross-validation procedure allowed us to replicate the majority of our important findings. In that respect, correlational analyses revealed consistent findings across samples regarding the general hypothesis that informational and controlling work environments are strongly related to feelings of self-determination. These analyses further revealed that these three variables are significantly related in the predicted direction with work satisfaction and interest, organizational behaviors, and health/lifestyle self-perceptions.

Results from the path analyses showed that the theorized mediational role of feelings of self-determination was generally supported. Thus, these results are a first direct confirmation in the work setting of the linkage as postulated by self-determination theory. When considering perceptions of supervisory styles (i.e., sample 1), the data were consistent in showing that self-determination played a mediational role in influencing both satisfaction and interest. With respect to perceptions of work climates (i.e., sample 2), the mediational linkages were supported for work interest but not for work satisfaction. However, in every case self-determination was consistently the best predictor of both work satisfaction and work interest.

Work satisfaction and interest also demonstrated, in both samples and with few exceptions, their hypothesized mediational role between self-determination and the majority of organizational behaviors and health self-perceptions. First, in both samples, work interest was the only significant predictor for self-reports of absenteeism and distraction. Second, feelings of self-determination and work satisfaction were consistently the two significant paths predicting intentions to change job. Cross-validated findings were also evidenced with respect to linkages predicting the physical health self-report. In both samples, work interest and work satisfaction directly impacted on physical health self-perceptions. The mental health self-report was also significantly explained by the proposed model. However, results were less consistent across samples (see Figures 2 and 3). Nevertheless, work satisfaction was revealed to be a common direct influence in explaining this latter variable. Self-reports of health habits were also among the few variables that showed a lack of consistency across samples. Nevertheless, the data demonstrate that at least in certain cases, self-

perceptions of important life habits such as alcohol consumption (sample1), and cigarette smoking (sample 2) were significantly linked with one of the mediating variables (interest or satisfaction) in predictable ways.

In sum, our data provide further evidence in support for the generalizability of self-determination theory in the work domain. One may also note that in the Deci et al.'s (1989) study, the portion of the data that was collected before their intervention program (i.e., Time 1) did not reveal any consistent results with respect to the theory's main hypotheses. Our data thus extend the empirical base of the theory by showing consistent support for the hypotheses in conditions whereby neither supervisors nor subordinates had received any specific intervention program.

Although the present results supported the self-determination model, certain limitations of the study should be acknowledged. We have used cross-sectional data for causal modeling purposes as well as path analyses to test the different linkages postulated in the model. Though this procedure can provide an interesting preliminary test of the mediational model proposed, it is not a strong validation of the causal linkages among the different proposed components. Future studies using longitudinal data and/or structural equation modeling such as provided by LISREL could be conducted to confirm on a more solid empirical base the power of the self-determination model. Furthermore, including more direct measures or different sources of measurement of organizational behaviors and health variables would also be a logical future step in the validation of the proposed model. Keeping these limitations in mind, the present results do provide additional support for the generalizability of self-determination theory to the work domain.

From an applied perspective, these results are in line with the contention that changes in the interpersonal work environment (such as supervisory styles) could indeed make a difference not only in the quality of work life, but also in organizational behaviors and the quality of life outside of work for employees.

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Footnotes

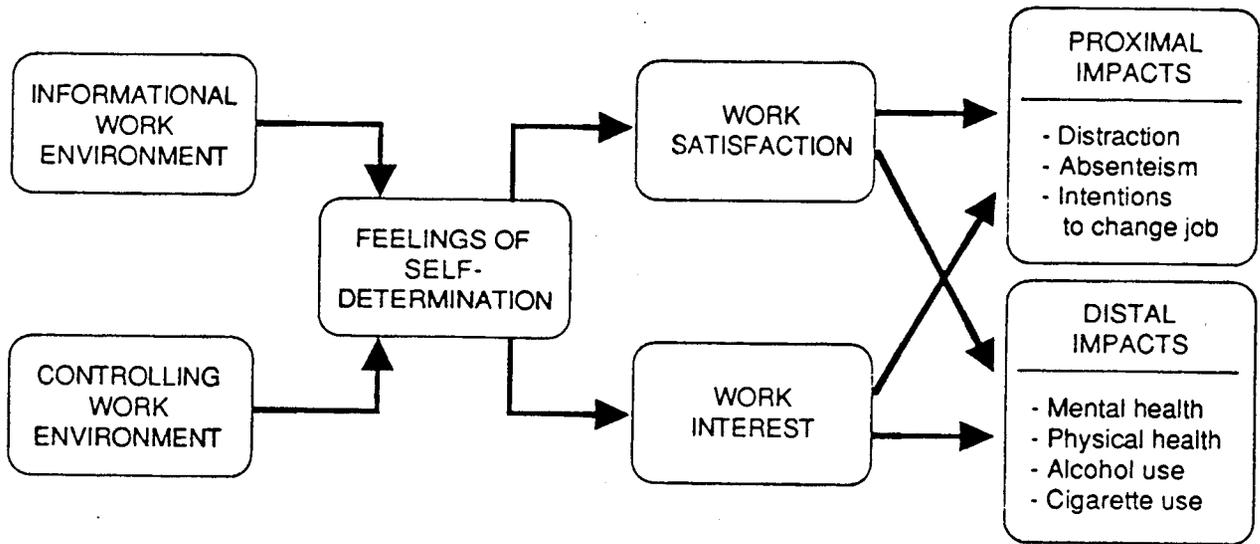
¹ The scales are presently in French and are available through the first author. The sample items were translated from French to illustrate the content of each scales.

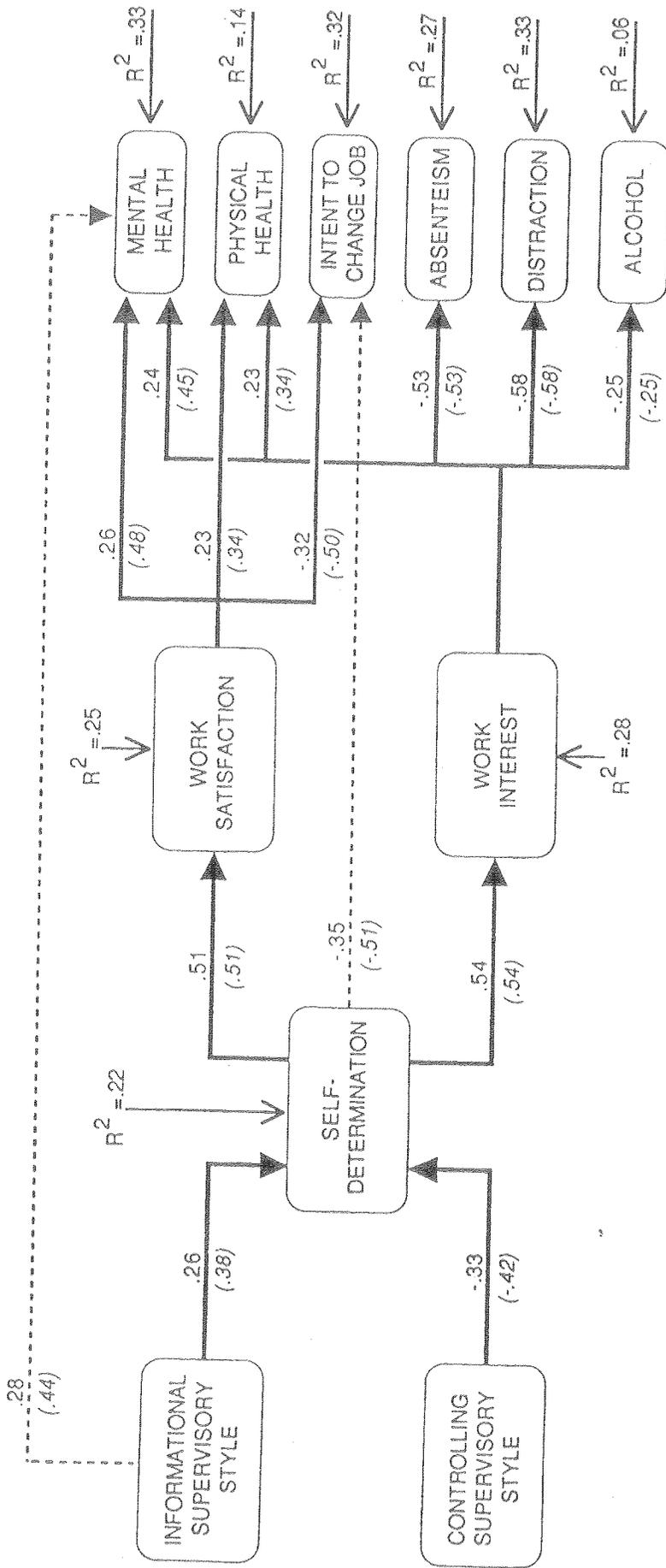
Figure Caption

Figure 1. Preliminary self-determination model of the quality of worklife

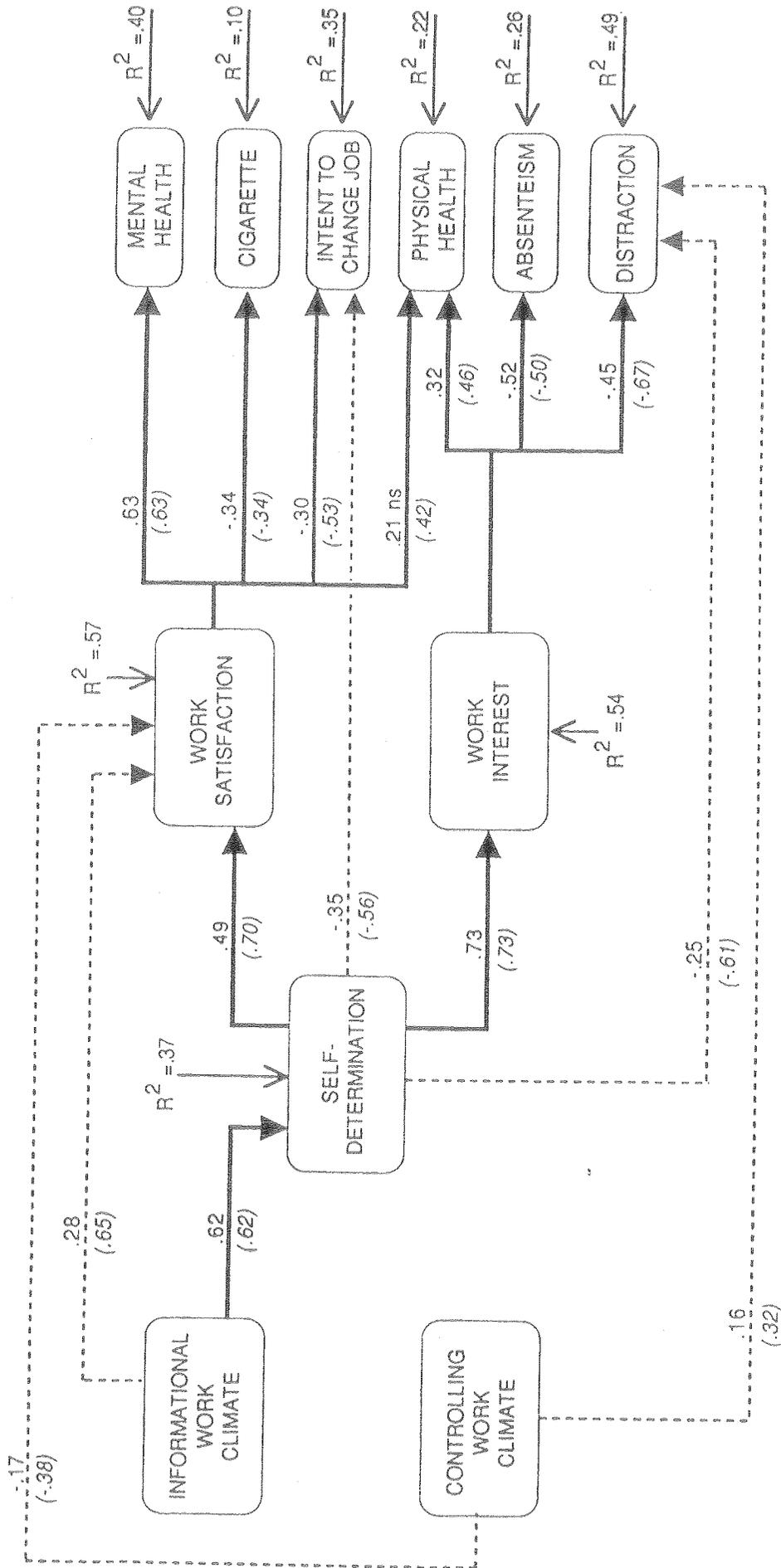
Figure 2. Path analysis testing the self-determination model of the quality of worklife for sample 1.

Figure 3. Path analysis testing the self-determination model of the quality of worklife for sample 2.





P.S.: Correlation coefficients are presented in parentheses. All paths are significant. Dashed lines represent postulated indirect effects that turned out to be significant direct effects.



P.S.: Correlation coefficients are presented in parentheses. Unless indicated (i.e. ns), all paths are significant. Dashed lines represent postulated indirect effects that turned out to be significant direct effects.

Appendix

Summary Table of Multiple Regressions for Path Analyses Testing the Mediational Model of Self-Determination at Work for Sample 1 and Sample 2.

EQUATION NUMBER	CRITERION	PREDICTORS	SAMPLE 1		SAMPLE 2	
			r	β	r	β
#1a:	<u>Self-determination</u>	Informational	.38	.26**	.62	.65*****
		Controlling	-.42	-.33**	-.20	.08
			R ² = .22*****		R ² = .37*****	
#1b:	<u>Self-determination</u>	Informational			.62	.62*****
					R ² = .37*****	
#2a:	<u>Work satisfaction</u>	Informational	.34	.17	.65	.28**
		Controlling	-.26	.00	-.38	-.17*
		Self-determination	.51	.44*****	.70	.49*****
			R ² = .26*****		R ² = .57*****	
#2b:	<u>Work satisfaction</u>	Self-determination	.51	.51*****		
			R ² = .25*****			
#3a:	<u>Work interest</u>	Informational	.30	.12	.42	-.13
		Controlling	-.23	-.03	-.24	-.14
		Self-determination	.54	.51*****	.73	.78*****
			R ² = .28*****		R ² = .54*****	
#3b:	<u>Work interest</u>	Self-determination	.54	.54*****	.73	.73*****
			R ² = .28*****		R ² = .53*****	
#4a:	<u>Distraction</u>	Informational	-.16	-.05	-.37	.12
		Controlling	.00	-.14	.32	.17*
		Self-determination	-.27	-.03	-.61	-.29*
		Work satisfaction	-.19	-.13	-.55	-.10
		Work interest	-.58	-.65*****	-.67	-.41*****
			R ² = .33*****		R ² = .49*****	
#4b:	<u>Distraction</u>	Controlling			.32	.16*
		Self-determination			-.61	-.25*
		Work interest	-.58	-.58*****	-.67	-.45*****
			R ² = .33*****		R ² = .49*****	
#5a:	<u>Absenteeism self-report</u>	Informational	-.35	-.18	-.40	-.06
		Controlling	.24	.08	.27	.08
		Self-determination	-.31	.10	-.48	-.06
		Work satisfaction	-.38	-.13	-.52	-.22
		Work interest	-.53	-.44****	-.52	-.28*
			R ² = .30*****		R ² = .30*****	
#5b:	<u>Absenteeism self-report</u>	Work interest	-.53	-.53*****	-.52	-.52
			R ² = .27*****		R ² = .26*****	

#6a:	<u>Intentions to change</u>	Informational	-.03	.27**	-.24	.34*
		Controlling	.27	.12	.18	.06
		Self-determination	-.51	-.41****	-.56	-.41****
		Work satisfaction	-.38	-.40****	-.55	-.39****
		Work interest	-.27	.10	-.53	-.11
			$R^2 = .37****$		$R^2 = .39****$	

EQUATION NUMBER	CRITERION	PREDICTORS	SAMPLE 1		SAMPLE 2	
			r	B	r	B
#6b:	<u>Intentions to change</u>	Self-determination	-.51	-.35****	-.56	-.35***
		Work satisfaction	-.50	-.32****	-.53	-.30**
			R ² =.32*****		R ² =.35*****	
#7a:	<u>Physical health self-perception</u>	Informational	.25	.10	.18	-.21
		Controlling	-.17	-.01	-.19	-.08
		Self-determination	.33	.11	.37	.07
		Work satisfaction	.34	.17	.42	.29*
		Work interest	.34	.17	.46	.29*
			R ² =.13**		R ² =.22*****	
#7b:	<u>Physical health self-perception</u>	Work interest	.34	.23*	.46	.32**
		Work satisfaction	.34	.23*	.42	.21
			R ² =.14*****		R ² =.22*****	
#8a:	<u>Mental health self-perception</u>	Informational	.44	.25**	.41	-.05
		Controlling	-.25	-.02	-.35	-.13
		Self-determination	.42	.08	.46	-.02
		Work satisfaction	.48	.24*	.63	.52*****
		Work interest	.45	.21*	.51	.17
			R ² =.32*****		R ² =.40*****	
#8b:	<u>Mental health self-perception</u>	Informational	.44	.28***		
		Work satisfaction	.48	.26**	.63	.63*****
		Work interest	.45	.24*		
	R ² =.33*****		R ² =.40*****			
#9a:	<u>Alcohol use self-perception</u>	Informational	-.05	.00	-.20	-.16
		Controlling	-.06	-.18	.09	.07
		Self-determination	-.22	-.22	-.20	-.32
		Work satisfaction	-.06	.14	-.07	.22
		Work interest	-.25	-.27*	-.07	.10
			R ² =.07*		R ² =.03	
#9b:	<u>Alcohol use self-perception</u>	Self-determination			-.20	-.20
		Work interest	-.25	-.25*		
	R ² =.06*		R ² =.04			
#10a:	<u>Cigarette smoking self-perception</u>	Informational	.09	.09	-.20	-.12
		Controlling	-.08	-.09	.14	.03
		Self-determination	-.12	-.13	-.21	.15
		Work satisfaction	.15	.28*	-.23	.02
		Work interest	-.25	-.22	-.34	-.40**
			R ² =.03		R ² =.08*	

#10b: Cigarette smoking
self-perception Work interest -.34 -.34*****
R²=.10*

N.B. - R² presented are adjusted R².

Significance levels are presented for only standardized betas and for the adjusted R².

*: p < .05

***: p < .005

*****: p < .0001

** : p < .01

****: p < .001

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