

Chapter 4

**Motivations for health and their associations with lifestyle, work style,
health, vitality and employee productivity**

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Abstract

Objective. Investigate employees' underlying motivational regulatory styles toward healthy living and their associations with lifestyle, work style, health, vitality and productivity.

Methods. Regression analyses on cross-sectional data from Dutch employees (N=629), obtained as baseline measurement before a workplace health promotion project.

Results. Controlled regulation was not associated with smoking and alcohol use, and negatively associated with physical activity, healthy dietary habits, relaxation, and a balanced work style. Autonomous regulation was positively associated with physical activity, healthy dietary habits and relaxation, and negatively associated with smoking and alcohol use. Healthy lifestyle and work style were associated with perceived health and vitality, which in turn were associated with employees' productivity (absenteeism and presenteeism).

Conclusions. Internalization of the value of health is important to promote a healthy lifestyle and work style among employees, and has meaningful business implications.

Introduction

A healthy workforce is an asset for any organisation¹. Today, health is widely acknowledged as a codetermining factor for employee productivity, through which business performance may rise simultaneously². Augmenting health in organizations may serve both health and business interests, which potentially enable a sustainable focus on health among large groups of individuals. The same applies for vitality at work. Whereas *health*, defined here as “a complete state of physical, mental, and social well-being”³, merely reflects a state, vitality at work particularly reflects a dynamic construct, as can be seen through an often used definition: “High levels of energy and mental resilience while working; the willingness to invest effort in one’s work, and persistence even in the face of difficulties”⁴. Health and vitality at work are generally understood as related constructs⁵, which are, at least partially, affected by similar determinants.

Health behavior is an important determinant of both health and vitality at work⁵. Well-known health-related lifestyles are physical activity, smoking, alcohol use, healthy eating and relaxation⁶. A healthy lifestyle among employees is believed to keep employees vital, and thereby contributes to their prolonged employability⁷ and work ability⁸. Studies also indicate that employees with low vigorous activity patterns, that is, less than three times a week spending at least 20 minutes on severe physical activity⁹, are more likely to report productivity loss¹⁰. Consequently, various companies now offer lifestyle programs to promote the health and vitality of their employees. In practice, however, it seems difficult to encourage employees to participate in lifestyle interventions^{11, 12}. Poor adherence to lifestyle programs and low participation rates among employees restrict the health and business impact of lifestyle interventions in companies, and may reduce the willingness of managers to invest in these kinds of health programs. To keep companies interested in lifestyle programs, a more profound knowledge of how to engage employees in healthy lifestyle behavior is needed. The essential question here is not so much *which* behavior should be changed, but rather *how* that change can be induced^{13, 14}.

In this context, and in addition to a healthy lifestyle, a healthy *work style* may be equally important. Employee *work style*, defined here as “a response to work demands in a certain environment”¹⁵, is also associated with health among employees^{16, 17}. Maintaining a healthy

work style among employees therefore appears important to keep the workforce healthy. This is particularly important in times of demanding and rapidly changing work environments, in which employees may work harder than before¹⁸. Although influenced by organizational culture¹⁹, work style, at least partially, represents an individual's behavioral construct. It is relevant to examine how employees can be encouraged to a healthy work style. To date, however, little is known about underlying motivational processes for healthy work styles and healthy lifestyles among employees. This study aims to contribute to this knowledge gap.

This study started from the premise that both a healthy lifestyle and a healthy work style are important for the health and productivity of employees. The aim was to contribute to the understanding of underlying motivational regulatory processes on a healthy lifestyle and a healthy work style among employees. This study joins the contemporary focus on motivational processes for lifestyle behaviors, for which motivational theories have been developed²⁰. To date, most studies have focused on motivation for one specific health behavior. Nevertheless, transference ("spillover") effects between motivational regulatory styles and various types of health behavior may occur²¹, and seemed to be valid in practice for exercising and healthy eating²². It is relevant to examine whether these transference effects also occur among employees and which type of health behavior is involved.

The main aim of this study was to investigate the associations between underlying motivational regulatory styles and both a healthy lifestyle and a healthy work style among employees. Because the focus was on healthy living *in general*, attention is also paid to the possibly occurring transference effects. By linking a healthy lifestyle and a healthy work style to perceived health, vitality at work, presenteeism and absenteeism, this study also aimed to provide a business rationale for workplace health promotion.

Theoretical foundation

This study was grounded in the Self-Determination Theory (SDT)²³, a motivational theory on human motivation and personality, which is increasingly used in the health domain²⁴⁻²⁷. More specifically, in this study, a sub-theory of SDT, the Organismic Integration Theory²⁸ was used. According to the Organismic Integration Theory, people have qualitatively different reasons for health-promoting behaviors. In the Organismic Integration Theory,

amotivation describes a situation in which people are not motivated to perform a specific behavior, whereas *intrinsic motivation* is the prototype of autonomous regulation. Between these two extremes, four different types of motivation (“regulatory styles”) are distinguished. These four regulatory styles can be placed along a continuum: external, introjected, identified and integrated regulation. The first regulatory style, *external regulation*, refers to motivation that occurs when behavior is regulated through external means, such as rewards²⁹ and punishments, and driven by a need or force to comply³⁰. *Introjected regulation* refers to taking in the behavior, but not accepting it as one’s own, and is performed to avoid guilt and shame, feeling bad about oneself and “must” or “have to” perform the behavior³¹. *External* and *introjected* regulation are described as *controlled* forms of motivation. In opposition to this, identified and integrated regulation are both *autonomous* forms of motivation. *Identified regulation* refers to accepting the value of the behavior as personally important; the behavior is valued and chosen volitionally. *Integrated regulation* refers to behavior that is congruent with personally endorsed values, goals and needs in general, which already are part of the self²³. Movement along the regulatory continuum is part of an internalization process.

By investigating the associations between both controlled and autonomous regulation and a healthy lifestyle and work style, this study provides more clarity on the underlying motivational regulatory styles towards various types of health behavior among employees.

Methods

This study was conducted before the start of a workplace health promotion project within a Dutch dairy company, in which various health-promoting activities were applied. For example, the organization initiated and intensified the dialogue on the value of health and vitality. In addition, there were collective health-promoting activities, such as lunch walking, the company providing free fruits, and sports and other physical activities. This health project was preceded by a baseline questionnaire in June 2011, and this baseline questionnaire was used for the study.

Design and study population

Before starting the health project, all employees ($n = 1132$) of the company were asked to complete an online questionnaire. They received a letter or an e-mail with a unique code, allowing them to log in to a Web page. Employees were free to fill in the questionnaire at work or at home. In total, 629 employees (55%) completed the entire questionnaire. Incomplete questionnaires ($n = 33$) were excluded from the data analyses, resulting in a cross-sectional file with no missing data.

Measures

Regulatory styles

A modified version of the Exercise Self-Regulation Questionnaire (SRQ-E)³² was used to assess the motivational regulatory styles. In research, the SRQ is often adapted for and used in several specific domains, for example in the work domain³³, or the health care domain³⁴. In this study, the 12 items of the SRQ-E were adapted to tap the different motivational styles toward healthy living *in general*, instead of motivation toward exercising in specific. With this, this study remained true to the original SRQ concept, but was tailored to the study objectives and the needs of the organizational context. Employees were asked to indicate the extent to which several reasons for healthy living applied to them (response categories: 1 “strongly disagree” - 5 “strongly agree”). The internal reliabilities of the adapted scales were calculated and are presented hereafter.

Controlled regulation was computed by averaging the six items on external and introjected regulation (Cronbach $\alpha = 0.78$). Item examples are as follows: “Because I want others to see me as a healthy person” (external), and “Because I feel pressured to live healthily” (introjected).

Autonomous regulation was computed by averaging the six items on identified and intrinsic regulation (Cronbach $\alpha = 0.81$). Item examples are as follows: “Because it is personally important to me” (identified), and “Because it is fun and interesting” (intrinsic).’

Lifestyle and work style

Physical activity was measured by two items about weekly levels of physical activity: “How many days a week do you spend at least 30 minutes doing moderate physical activities, comparable to walking or cycling?”, and: “How many days a week do you spend at least 20

minutes doing severe physical activity which makes you perspire?” . These questions were derived from the Dutch physical activity public health guideline⁹.

Smoking and *alcohol intake* were each measured by one item: ‘How many cigarettes do you, as a rule, smoke weekly?’ and: ‘How many alcoholic drinks do you, as a rule, have weekly?’. Single-item measurements have been demonstrated to be a reliable method to investigate health behaviors, in particular when objective facts are asked³⁵.

Healthy dietary habits were assessed by averaging three items of the Short Food Frequency Questionnaire³⁶ about breakfast habits, and about fruit and vegetable intake: “How many days a week do you have breakfast, do you eat vegetables, and do you eat fruit”, respectively (0 to 7 days).

Relaxation was measured with two self-developed items on five-point Likert scales (1 “totally disagree” to 5 “totally agree”). Items were as follows: “I experience enough relaxation moments during work”, and “I experience enough moments of relaxation in my private situation”.

Having a *balanced work style* was measured with six items, derived from the work style scale of Feuerstein et al.³⁷ and Feuerstein & Nicholas¹⁵. Items on the use of breaks, physical complaints, making high demands on one’s own performance at work and on having energy after work, were assessed on five-point Likert scales (1 “almost never” to 5 “almost always”). Item examples are as follows: “At work, I take a break to have lunch”, and “At the end of a working day, I experience physical complaints that are due to my work style” (reversed); Cronbach $\alpha = 0.65$.

Perceived health, vitality at work, and productivity (absenteeism and presenteeism)

Perceived health was measured through a self-rating health question on a five-point Likert scale: “How would you estimate your current state of health?”. Responses were 1 “poor”, 2 “rather poor”, 3 “good”, 4 “very good” and 5 “excellent”. This single item health scale has been demonstrated to be a reproducible and reliable health measure³⁸.

Vitality at work was measured with the vitality subscale of the Utrecht Work Engagement Scale⁴. This six-item scale was assessed on seven-point Likert scales (0 “never” to 6

“always”). An item example is as follows “At work, I feel bursting with energy”; Cronbach $\alpha = 0.88$.

Absenteeism was measured with one question on self-reported sickness absenteeism: “How many days have you been absent due to sickness in the past 12 months”. Responses 1 “zero days”, 2 “1 to 9 days”, 3 “10 to 24 days”, 4 “25 to 100 days”, and 5 “more than 100 days”.

Presenteeism, defined as sub-optimally working due to health complaints³⁹, was assessed with three items on five-point Likert scales (1 “almost never”, 5 “almost always”). An item example is as follows: “How many times was your work hampered by health complaints”; Cronbach $\alpha = 0.79$.

Covariates were gender (women/ men), age (5-year groups) and educational level (primary, secondary, and higher education). Because we assumed that the analyses potentially could be influenced by shiftwork and kind of work, these variables were used as covariates as well (shiftwork 0 = “no shift work”, 1 = “shift work”; kind of work: 0 = “both physical and mental work, or mainly mental work”, 1 = “mainly physical work”).

Statistical procedure

Descriptive statistics (means, standard deviations) and bivariate Pearson correlation coefficients of all variables were computed. The Pearson correlation coefficient was used, because it is robust and retains power, even when distributional assumptions are violated⁴⁰.

Subsequently, a series of multivariate linear regression analyses were performed. First, lifestyle factors (physical activity, smoking, alcohol use, healthy dietary habits and relaxation) and having a balanced work style were regressed on controlled and autonomous regulation, respectively. Then, perceived health and vitality at work were regressed on the regulatory styles, lifestyle and work style behaviors. Finally, absenteeism and presenteeism were regressed on the regulatory styles, lifestyle and work style behaviors, and on perceived health and vitality at work. All analyses were adjusted for gender, age, educational level, shiftwork, and kind of work (mental or physical).

To prevent distortion of the various scales, the standardized β 's are used in the analyses. For all analyses $P < 0.05$ was interpreted as a significant difference (two-tailed).

Results

Table 1 presents the descriptive statistics of the employee characteristics in this sample. Men represented 78% of the sample. Shiftwork was performed by 30% of the sample, whereas 34% of the sample performed mainly physical work. The project team compared the sample of the study with the personnel list, and the conclusion was that the participants of the study were representative of the entire organization.

Table 1. Employee characteristics (n = 629)

Variables	Response traits	N	%
Gender	Men	492	78%
	Women	137	22%
Age,y	<30 years	104	17%
	30-45 years	241	38%
	>45 years	284	45%
Educational level	Primary	175	28%
	Secondary	233	37%
	Higher	221	35%
Shiftwork	Shift work	186	30%
	No shift work	443	70%
Type of work	Mainly physical	216	34%
	Mainly mental	413	66%

Table 2 presents the means, standard deviations, and bivariate correlations of the variables in this study, on which the subsequent multivariate analyses are based.

Table 3 presents the results of the regression analyses of controlled and autonomous regulation on the five lifestyle behaviors and on having a balanced work style. Controlled regulation was negatively associated with physical activity ($\beta = -0.10$; $P < 0.05$), with healthy dietary habits ($\beta = -0.09$; $P < 0.05$), with relaxation ($\beta = -0.08$; $P < 0.05$) and also with having

a balanced work style ($\beta = -0.10$; $P < 0.05$). Controlled regulation was not associated with smoking habits nor with alcohol use.

Autonomous regulation was positively associated with physical activity ($\beta = +0.32$; $P < 0.05$), healthy dietary habits ($\beta = +0.33$; $P < 0.05$), relaxation ($\beta = +0.14$; $P < 0.05$), and having a balanced work style ($\beta = +0.18$; $P < 0.05$). Moreover, autonomous regulation was negatively associated with smoking ($\beta = -0.16$; $P < 0.05$) and alcohol use ($\beta = -0.15$; $P < 0.05$).

Table 2. Means, standard deviations and bivariate correlations between the variables (n = 629)

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Controlled regulation (1 'low'- 5 'high')	2.75	.66		1										
2. Autonomous regulation (1 'low'- 5 'high')	3.70	.56	+.38*											
3. Physical activity (1 'never' – 7 'daily')	3.10	1.46	+.04	+.26*	1									
4. Smoking (amount/ week)	12.02	29.36	-.03	-.16*	-.08	1								
5. Alcohol use (amount/ week)	6.56	7.13	+.02	-.16*	+.02	+.19*	1							
6. Healthy dietary habits ('never'- 'daily')	5.40	1.24	+.01	+.32*	+.16*	-.25*	-.23*	1						
7. Relaxation (1 'low'- 5'high')	3.65	.76	-.01	+.11*	+.17*	+.01	+.02	+.00	1					
8. Balanced work style (1 'low' 5 'high')	4.03	.64	-.00	+.14*	+.19*	-.04	+.03	+.05	+.45*	1				
9. Perceived health (1'low'- 5'high')	3.29	.79	-.06	+.21*	+.25*	-.12*	-.01	+.06	+.21*	+.31*	1			
10. Vitality at work (0 'low- 6'high')	4.67	.91	+.02	+.25*	+.24*	-.02	-.02	+.11*	+.24*	+.35*	+.33*	1		
11. Absenteeism (1 'zero'- 5 '>100 days')	2.32	.74	+.02	+.07	-.07	+.03	-.12*	-.04	-.03	-.03	-.19*	-.10	1	
12. Presenteeism (1 'low'- 5 'high')	1.33	.62	+.03	-.15*	-.12*	-.02	+.01	-.07	-.23*	-.42*	-.45	-.40*	+.33*	1

*p > 0.05

Table 3. Multivariate standardized regression coefficients (β), including 95% confidence intervals of the lifestyle and work style onto controlled and autonomous regulation, adjusted for gender, age, educational level, shiftwork, and kind of work

	Physical activity β (CI)	Smoking β (CI)	Use of alcohol β (CI)	Healthy dietary habits β (CI)	Relaxation β (CI)	Having a balanced work style β (CI)
Gender (1: 'women' - 2: 'men')	+0.08* (+.00 - +.16)	-.00 (-.09 - +.08)	+0.30* (+.21 - +.38)	-.15* (-.23 - -.07)	+0.01 (-.08 - +.10)	+0.03 (-.06 - +.11)
Age (1: '<30 yr' - 3: '>45 yr')	-.12* (-.21 - -.04)	-.12* (-.20 - -.03)	-.14* (-.22 - -.06)	+0.27* (+.19 - +.35)	+0.01 (-.08 - +.10)	-.04 (-.13 - +.04)
Education level (1: 'low' - 3: 'high')	-.03 (-.12 - +.06)	-.10* (-.19 - -.00)	-.12* (-.21 - -.03)	+0.17* (+.08 - +.26)	-.03 (-.12 - +.07)	-.04 (-.14 - +.05)
Shift work (0: 'no' - 1: 'yes')	+0.09 (-.00 - +.18)	+0.13* (+.04 - +.22)	-.04 (-.13 - +.05)	+0.02 (-.06 - +.11)	+0.01 (-.09 - +.10)	+0.06 (-.03 - +.15)
Kind of work (0: 'mental' 1 'physical')	+0.04 (-.07 - +.10)	-.03 (-.12 - +.06)	-.05 (-.14 - +.04)	-.06 (-.14 - +.02)	+0.11* (+.02 - +.21)	+0.12* (+.03 - +.21)
Controlled regulation	-.10* (-.18 - -.02)	+0.02 (-.06 - +.11)	+0.05 (-.04 - +.13)	-.09* (-.16 - -.01)	-.08* (-.17 - -.00)	-.10* (-.18 - -.01)
Autonomous regulation	+0.32* (+.24 - +.40)	-.16* (-.24 - -.07)	-.15* (-.23 - -.07)	+0.33* (+.25 - +.41)	+0.14* (+.06 - +.23)	+0.18* (+.10 - +.27)

* $P < 0.05$

CI, Confidence Intervals

Figure 1 presents the significant associations between regulatory styles, lifestyle and work style, perceived health, vitality at work, absenteeism and presenteeism.

Perceived health was positively associated with physical activity ($\beta = +0.16$, $P < 0.05$), and having a balanced work style ($\beta = +0.24$, $P < 0.05$) and negatively associated with smoking ($\beta = -0.09$, $P < 0.05$). Vitality at work was positively associated with physical activity ($\beta = +0.13$, $P < 0.05$), and with having a balanced work style ($\beta = +0.27$, $P < 0.05$).

Absenteeism was negatively associated with perceived health ($\beta = -0.20$, $P < 0.05$).

Presenteeism was negatively associated with perceived health ($\beta = -0.24$, $P < 0.05$) and vitality at work ($\beta = -0.23$, $P < 0.05$). There was also a negative association between presenteeism and having a balanced work style ($\beta = -0.28$, $P < 0.05$).

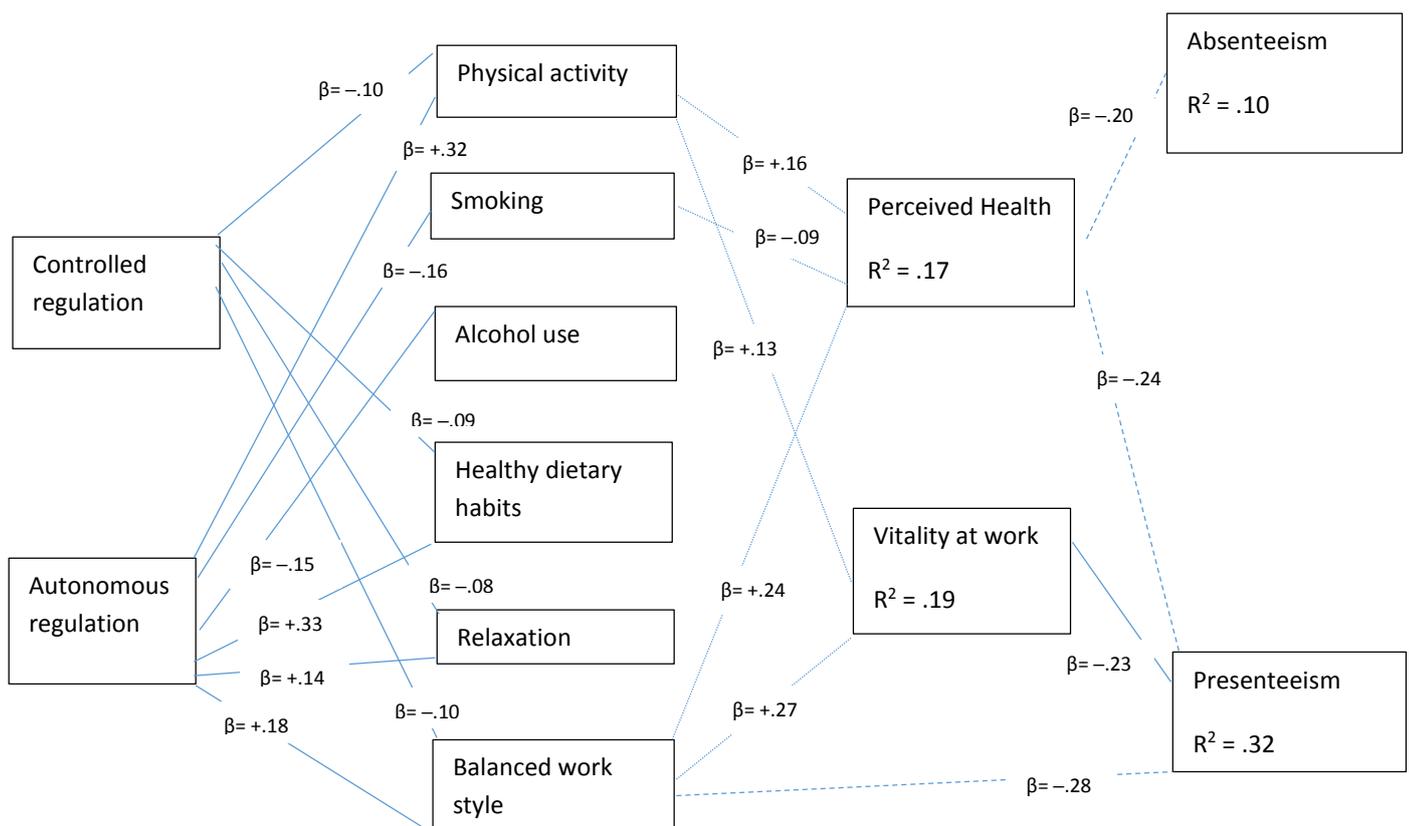


Figure 1. Regression analyses of controlled and autonomous regulation on healthy lifestyle factors and having a balanced work style (solid lines); of regulatory styles, healthy lifestyle and balanced work style on perceived health and vitality at work (small dashed lines); as well as the regression analyses of regulatory styles, healthy lifestyle, balanced work style, perceived health and vitality at work on absenteeism and presenteeism (large dashed lines)

Discussion

In this study, the associations between motivational regulatory styles, health behaviors, health and productivity among employees were investigated. The SDT²³ was used as a theoretical framework^{24, 41}. In line with the SDT, autonomous regulation of healthy living was associated with all five measured healthy lifestyle behaviors and with having a balanced work style. This finding is in line with previous studies, which demonstrated the relevance of autonomous regulation for physical activity⁴²⁻⁴⁷, healthy eating⁴⁸, and smoking cessation⁴⁹. In addition, the results of the present study support the idea of transference of autonomous regulation to various types of health behavior. Internalization of the value of healthy living in general is likely to contribute to various types of healthy behavior among employees.

In the literature, there is mixed evidence concerning the role of controlled regulation^{24, 44}. In a previous study among employees, controlled regulation was negatively associated with employees' participation in lifestyle interventions⁵⁰. In addition, a negative association between controlled regulation and employee attitudes toward and perceived behavioral control of reducing alcohol use was found²⁷, although the same study found a positive association between controlled regulation and subjective norms toward alcohol use. The value of controlled regulation may be expected in the initial processes of *short-term* change^{29, 44}, whereas *long-term* maintenance of health behavior requires an autonomous form of regulation^{14, 29, 51}. In the present study, the focus was on health behaviors that employees will generally ("as a rule") exhibit, that is, more or less long-term lifestyle behavior. On the basis of the findings, controlled regulation seemed not to be very useful regarding long-term health behaviors among employees. To validate the potential value of controlled regulation in initial change processes, longitudinal studies among employees are required. On the basis of current knowledge, however, there are no reasons to believe that controlled regulation (i.e., pressuring employees to health behavior) will contribute to long-term maintenance of a healthy lifestyle and work style among employees.

The concept of work style represents a learned strategy that is used to respond to increased job demands⁵². If these responses are inadequate, they may lead to symptoms of poor health. To date, most work style studies have focused on physical complaints^{17, 52}. In times of

rapid change and increasing interaction between work and private life, however, mental well-being is relevant as well. In the present study, autonomous regulation toward healthy living was associated with a healthy work style. From an organizational perspective it would be interesting to further examine the associations between autonomous regulation, work style, and mental well-being.

Theoretical implications

This study contributes to knowledge about underlying motivational regulatory processes toward healthy behavior among employees. This can be seen as complementary to the individual cognitive theories⁵³ and social-cognitive theories⁵⁴ that are often used in health promotion⁵⁵. Individual motives and underlying processes form the basis upon which health programs can build^{45, 50}. Nevertheless, motivation alone is unlikely to be sufficient to maintain healthy behavior or withstand unhealthy behavior. To improve the understanding of the process through which intrinsic motivation is converted into healthy lifestyles, SDT is nowadays increasingly integrated in other health theories, such as the Transtheoretical Model of Stages of Change⁵⁶, the Theory of Planned Behavior^{20, 27, 57}, and with goal setting theories^{51, 58}. To establish a more profound understanding of how the organizational context may affect motivational processes, it makes sense to integrate the SDT with organizational-specific theories as well. Examples are theories on organizational culture⁵⁹ and theories on organizational change processes⁶⁰.

Practical implications

On the basis of the findings, companies and health promoters would do well to encourage employees to develop a more autonomous regulatory style for health in general. Opportunities to encourage autonomous regulatory styles are to make the value of healthy living more explicit⁵⁶, to improve employees' belief that living healthily is an important part of "who I am"⁴⁶, and to define goals and motives about what individuals want to attain in general^{45, 50}. As theorized by the SDT, the internalization process interacts with the social context. It requires a social environment in which individuals are able to autonomously choose activities, feel themselves competent to perform the activity, and are experiencing relatedness to their environment. Empirical evidence for this assumption has been found for autonomy support and competence^{41, 47, 61, 62} and for relatedness⁶². In general, interventions

that aim to foster internalization should therefore offer choice, personal mastery, and fun⁵⁶, and should involve positive interpersonal behavior⁴⁸. Dialogue methodologies and collective learning processes in which people reflect on the value of health and make these values explicit may contribute to embed health within the organizational culture^{63, 64}. As a continuation of this health project within the studied dairy company, dialogue methodologies will be applied and evaluated. This evaluation will be described in a separate publication.

A business rationale for health promotion among employees was endorsed in this study. Perceived health and vitality at work were both negatively associated with presenteeism, and perceived health was also negatively associated with absenteeism. Investing in health and vitality at work, in particular through internalization of the value of health, is likely to make sense from a business perspective. This knowledge is important, because companies need to understand the relevance of health promotion to improve their business, in order for them to invest in it¹.

Limitations of the study

In cross-sectional studies, causality may only be inferred if it is based on well-conceived theory^{20, 65, 66}. As proposed by the SDT, regulatory styles are supposed to precede behavior. From this theoretical SDT perspective, it may be assumed that developing regulatory styles toward more extensive internalization will be useful to encourage employees toward healthier lifestyle behaviors. A decisive statement about causality, however, cannot be made due to the cross-sectional study design. The data were also self-reported, and may therefore be biased. The measures reflect the individual, subjective experience of employees regarding their lifestyle behavior, and do not measure the actual behavior. People tend to present themselves in a favorable light. As a result, people may underestimate their unhealthy behaviors⁶⁷, and overestimate their performance⁶⁸. In addition, common method variance may have contaminated the findings. It was attempted to avoid this bias by using validated scales, making use of reversed items and emphasizing that there were no good or wrong answers⁶⁹.

The data used were the baseline measurement, preceding the planned health project. Bias due to experience with the project was thus excluded. Nevertheless, it may be possible that

a disproportional number of employees who already were motivated for health have completed the questionnaire more often.

The data in this study were from a Dutch industrial dairy company and included a relatively large number of men. Therefore, the results may be generalizable to other industrial or male-dominated companies. Caution, however, is required toward broader generalization.

Conclusion

In this study, autonomous regulation, that is, internalization of the value of healthy living, was found to be associated with six types of healthy behavior. In contrast, controlled regulation, that is, feelings of pressure to live healthily, was negatively associated with four out of six healthy behaviors (the addictive behaviors smoking and alcohol use were not associated with controlled regulation). It is concluded that internalization of the value of healthy living is an important strategy to improve healthy lifestyle and work style behavior among employees, which in turn may contribute to a vital, healthy and productive workforce. Because transference effects are likely to occur, it makes sense for organizations to address the value of health in general, rather than to focus on behavioral change in one specific type of healthy behavior.

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