

A predictive study of antecedent variables of workaholism

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Abstract

Background: Recent studies have pointed to a relationship between personality variables, engagement, and the lifestyle of workers with workaholism. Our goal in the present study is to carry out a predictive study of the pre-existing variables for workaholism. **Method:** The study sample participants were 513 workers (48.1 % men, 51.9 % women), obtained through non-probability sampling. The programmes used were FACTOR (7.2 version) and SPSS 20.0. **Results:** We found that personality variables such as engagement, self-efficacy, obsessive-compulsive component (ICO), satisfaction with life and lifestyle were predictive of workaholism. **Conclusions:** Workaholism can, in fact, be predicted through certain variables (personality, engagement, self-efficacy, ICO, satisfaction with life and lifestyle) and hence, the present study contributes to a better understanding of workaholism and to furthering a healthy life style which may be affected by workaholism.

Keywords: workaholism, WorkBAT, occupational health, predictive study.

Resumen

Estudio predictivo de las variables antecedentes de la adicción al trabajo. **Antecedentes:** estudios recientes han sugerido que hay relación entre variables de personalidad, engagement y el estilo de vida de los trabajadores con la adicción al trabajo. En el presente trabajo nos hemos planteado el objetivo de realizar un estudio predictivo de las variables antecedentes de la Adicción al Trabajo. **Método:** los participantes han sido 513 trabajadores (48,1 % hombres, 51,9 % mujeres), obtenidos mediante un muestreo no probabilístico. Se han utilizado los programas FACTOR (versión 7.2) y SPSS 20.0. **Resultados:** se determina la capacidad predictiva de variables como Personalidad, Engagement, Autoeficacia, componente obsesivo-compulsivo (ICO), Satisfacción por la vida y Estilo de vida sobre la Adicción al Trabajo y la Pasión por el trabajo. **Conclusiones:** la Adicción al Trabajo se puede predecir a través de determinadas variables (Personalidad, Engagement, Autoeficacia, ICO, Satisfacción por la Vida y Estilo de Vida), contribuyendo la presente investigación a un mayor conocimiento de la Adicción al Trabajo y a la potenciación de un estilo de vida saludable que se puede ver afectado por la Adicción al Trabajo.

Palabras clave: adicción al trabajo, WorkBAT, salud laboral, estudio predictivo.

Nowadays, we come across more and more people who need to work constantly and this affects their social relationships, their happiness and their mental health. This phenomenon was described by Oates (1968), who first coined the term workaholism (addiction to work). Spence and Robbins (1992) suggest that workaholics are people who feel compelled to work due to internal causes that pressure them and make them feel guilty if they are not working. Hence, workaholics display various characteristic behaviour patterns such as: (a) They spend too much time at work with the intrinsic activities that this involves, with negative repercussions for their social and family relations and leisure time. (Scott, Moore, & Miceli, 1997). For example, Ersoy-Kart (2005) consider that workaholics work at least fifty hours a week. (b) They have a lot of expectations from their job, beyond the job's actual requirements or their own economic needs (Scott et al., 1997); (c) They devote more energy to work than what is strictly necessary (Andreassen, Ursin, & Eriksen, 2007); and (d) the persistence and frequency

with which they work means that they are thinking about work even when they are not at work (Scott et al., 1997).

Hameed, Amjad and Hameed (2013) carried out a study to determine whether personality could predict workaholism, demonstrating that personality is related to workaholism and that workaholism may be considered a stable factor of personality (Burke, Matthiesen, & Pallesen, 2006; Aziz & Tronzo, 2011). Regarding Drive, Burke et al., (2006) found positive relations with all the personality factors except openness to experience. Concerning Work Enjoyment, Abou-Deif, Rashed, Sallam, Mostafa and Ramadan, (2013) found positive relationships with all personality factors. On another hand, Mudrack (2004) explored the relationship between obsessive-compulsive personality traits and workaholism, and came to the conclusion that high *work involvement*, together with high scores in obsessive-compulsive traits, seems to increase the likelihood of working unnecessarily hard.

As regards engagement, Van Beek, Taris, Schaufeli and Brenninkmeijer (2014) indicate that workaholism is associated with having a prevention focus, whereas engagement is associated with having a promotion focus. Thus, workaholism was negatively related to job satisfaction and job performance, and positively related to business volume, whereas engagement was positively associated with job satisfaction and job performance and

negatively associated with turnover intention. Shimazu, Schaufeli, Kamiyama and Kawakami (2014) concluded that although these two constructs (workaholism and engagement) relate positively to a slight degree, they in fact constitute two different concepts. They found that workaholism has negative consequences whereas engagement has positive consequences in terms of wellbeing and performance. Consequently, we need to prevent workaholism at work and promote engagement.

Salanova, Grau, Llorens and Schaufeli (2001) showed that self-efficacy generates wellbeing and found a positive relationship between work, self-efficacy and workaholism, whereby high levels of self-efficacy could be related to high levels of workaholism. (Ng, Sorensen, & Feldman, 2007). Along these lines, Burke et al., (2006) concluded, as Spence and Robbins (1992) had put forward, that self-efficacy relates positively and significantly to workaholism, in other words, the more self-efficacious, the more workaholic, and vice versa. Similarly, Del Líbano, Llorens, Salanova and Schaufeli (2012) demonstrated that self-efficacy related positively to one of the two dimensions of workaholism, more specifically, overworking. Furthermore, Mazzetti, Schaufeli and Guglielmi (2014) demonstrated empirically that a work environment characterised by a climate of overworking can promote workaholism, especially for workers with high achievement motivation, perfectionism, responsibility and self-efficacy. The latter two were only related to workaholism when they coincided with an overwork climate.

If lifestyle is taken into account, Bakker, Demerouti, Oerlemans and Sonnentag (2013) found a negative association between the time devoted each day to activities related to night work, and wellbeing at the time of going to bed, as well as a positive association between the time dedicated to doing physical exercise during the day, and feeling well at bedtime. They found that these associations were even stronger in the case of workaholics. This indicates that, for workaholics, what they do in their free time is more important than it is for other people. Hence positive states increase more for workaholics when they spend time doing sport or physical exercise than when they spend time in work-related activities.

Furthermore, it has been shown that workaholics do not seem to benefit from social activities after work in the same way as non workaholics do, and that this effect is irrespective of the degree of workaholism, which goes to show that workaholism has a negative influence on wellbeing (Bakker et al., 2013). Virick and Baruch (2007) found that high scores in *Driven* reduced the balance between working life and satisfaction with life, but improved employee performance. Furthermore, a positive association was found between work enjoyment and life satisfaction. Along these lines, Shimazu, Schaufeli, Kubota and Kawakami (2012) demonstrated that workaholism was related to an increase in bad health and less satisfaction with life. On a family level, workaholics have less time to devote to their family, which negatively affects the quality of their relationship with their spouse and leads to conflict (Shimazu, Demerouti, Bakker, Shimada, & Kawakami, 2011).

The general objective of the present research study is to develop a prediction model of workaholism using the following indicators: personality, engagement, self-efficacy, the obsessive-compulsive component (ICO), satisfaction with life and lifestyle. The study puts forward the following objectives:

Objective 1: If work drive (*driven*) is influenced by personality, engagement, self-efficacy, ICO, satisfaction with life and lifestyle,

then we can accurately predict work drive using a model that incorporates these predictors.

Objective 2: If work enjoyment is influenced by personality, engagement, self-efficacy, ICO, satisfaction with life and lifestyle, then we can accurately predict work enjoyment using a model that incorporates these predictors.

Objective 3: If working excessively is influenced by personality, engagement, self-efficacy, ICO, satisfaction with life and lifestyle, then we can better predict working excessively using a model that incorporates these predictors.

Objective 4: If working compulsively is influenced by personality, engagement, self-efficacy, ICO, satisfaction with life and lifestyle, then we can better predict working compulsively using a model that incorporates these predictors.

Method

Participants

The sample consisted of 513 people currently in employment, living in Spain (48.1 % men, 51.9 % women). Their average age was 43.13 years ($SD_{age} = 11.61$). Their marital status: married (62.2%), de facto spouse (7.8%), single (18.7%), divorced / separated (10.3%) and widowed (1.0%). As regards their educational level, the distribution was as follows: No educational qualifications (1.9%), completed primary education (25.5%), completed secondary education (43.3%), three-year university degree or technical engineering degree (14.2%), five-year university degree, higher engineering degree or architect's degree (9.9%) and master and/ or doctorate (5.1%).

Instruments

In order to measure workaholism we used the *Workaholism Battery* (WorkBAT; Burke, 1999, 2001; Burke, Richardsen, & Martinussen, 2002; McMillan, Brady, O'Driscoll, & Marsh, 2002; Spence & Robbins, 1992) in the version adapted into Spanish by Boada-Grau et al. (2013) with a 5-point Likert scale, made up of two factors: *driven* (12 items, $\alpha = .82$) e.g., "9.- Me siento obligado a trabajar duro incluso cuando no es agradable [I feel obliged to work hard even when it is not pleasant]" and *work enjoyment* (7 items, $\alpha = .83$) e.g., "5.- Mi trabajo es tan interesante que a menudo no parece trabajo [My job is so interesting that it often doesn't seem like work]". The response format is a 5-point Likert scale (1 = *Totally disagree*, to 5 = *Totally agree*).

The Spanish version of the *Dutch Work Addiction Scale* (DUWAS; Schaufeli & Taris, 2004), adapted by Del Líbano, Llorens, Salanova and Schaufeli (2010). With a two factor structure: "F1.- Working excessively (WkE)" made up of 10 items ($\alpha = .67$) e.g., "14.- Generalmente estoy ocupado, llevo muchas cosas entre manos [I'm usually busy, I have a lot on things to do]" and "F2.- Working compulsively (WkC)" consisting of 7 items ($\alpha = .77$) e.g., "14.- Me siento culpable cuando tengo un día libre en el trabajo [I feel guilty when I have a day off at work]". The response format is a 5-point Likert scale (1 = *Rarely* to 5 = *Almost always*).

The *Inventario de Personalidad* ([Personality Inventory] OPERAS; Vigil-Colet, Morales-Vives, Camps, Tous, & Lorenzo-Seva, 2013), an instrument based on the Big Five personality factors. This scale consists of 40 items which are answered using a

5-point scale. It measures: Extraversion ($\alpha = .86$) e.g., “8.- Me desenvuelvo bien en situaciones sociales [I perform well in social situations]”, emotional stability ($\alpha = .86$) e.g., “9.- A menudo tengo el ánimo por el suelo [I often feel down]”, responsibility ($\alpha = .77$) e.g., “16.- Dejo las cosas a medias [I leave things half done]”, friendliness ($\alpha = .71$) e.g., “12.- Respeto a los demás [I respect others]” and openness to experience ($\alpha = .81$) e.g., “35.- Siento curiosidad por el mundo que me rodea [I’m curious about the world around me]”. The response format is a 5-point Likert scale (1 = *Totally disagree*, to 5 = *Totally agree*).

The *Health Promoting Lifestyle Profile II* (HPLP-II; Walker & Hill-Polerecky, 1996), in the Spanish version adapted by Serrano-Fernandez, Boada-Grau, Gil-Ripoll and Vigil-Colet (2015). It is made up of 48 items and 4 subscales and is answered using a 4-point Likert scale. The factors are: Health responsibility, made up of 12 items ($\alpha = .81$) e.g., “7.- Leo o veo programas de televisión sobre la mejora de la salud [I read or watch TV programs about improving health]”; Physical activity, which is made up of 12 items, ($\alpha = .86$) e.g., “3.- Sigo un programa de ejercicios planificados [I follow a planned exercise program]”; Nutrition, made up of 6 items, ($\alpha = .70$) e.g., “23.- Como de 3 a 5 porciones de vegetales todos los días [I eat 3-5 servings of vegetables each day]”; Spiritual growth and interpersonal relationships consisting of 18 items, ($\alpha = .88$) e.g., “21.- Me siento satisfecho y en paz conmigo mismo (a) [I feel content and at peace with myself]”. The response format is a 4-point Likert scale (1 = *never* to 4 = *routinely*).

The Spanish version of the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985), drawn up by Atienza, Pons, Balaguer, & García-Merita (2000). This is a one factor scale ($\alpha = .84$) made up of 5 items (e.g., “2.- Hasta ahora he conseguido de la vida las cosas que considero importantes [Up to now, I have achieved the things I think are important in life]”). The response format is a 5-point Likert scale. (1 = *Totally disagree*, to 5 = *Totally agree*).

The Spanish version of the General Self-Efficacy Scale (GSE; Baessler & Schwarzer, 1996), adapted by Sanjuán, Pérez and Bermúdez (2000). This scale is a one-factor scale made up of 10 items, ($\alpha = .87$); e.g., “8.- Puedo resolver la mayoría de los problemas si me esfuerzo lo necesario [If I make enough of an effort, I can solve most problems]”. The response format is a 4-point Likert scale. (1 = *False* to 4 = *true*).

The Utrecht Work Engagement Scale (UWES; Schaufeli, Salanova, González-Romá, & Bakker, 2002). We used the Spanish version drawn up by Salanova, Schaufeli, Llorens, Peiró and Grau (2000). This is a three factor scale made up of 15 items, the first of which is *vigour*, made up of 5 items, ($\alpha = .80$) e.g., “1.- En mi trabajo me siento lleno de energía [In my work, I feel full of energy]”. The second factor is *dedication*, made up of 5 items, ($\alpha = .92$) e.g., “5.- Mi trabajo me inspira [My work inspires me]”, and the last dimension is *absorption*, consisting of 5 items, ($\alpha = .75$) e.g., “8.- Me dejo llevar por mi trabajo [I am driven by my work]”. The response format is a 7-point Likert scale (1 = *Totally disagree*, to 7 = *Totally agree*).

Procedure

We used non probabilistic sampling (Hernández, Fernández, & Baptista, 2000) also known as random accidental sampling (Kerlinger, 2001) to obtain the sample. The response rate was around 80%.

Data analysis

To analyse the data, multiple regressions were carried out following the stepwise option whereby the programme incorporates each predictive variable into the model depending to what extent it accounts for variance. We used the SPSS 20.0 programme.

Results

The multiple linear regression models we performed were intended to test the effects that sixteen predictive variables have on four criterion variables that have to do with workaholism (Table 1).

The first model aims to analyse predictive capacity for the criterion variable *driven* (WorkBAT). In the model summary, we can observe that the predictive variables, perfectionism, absorption, satisfaction with life, growth, friendliness, nutrition and dedication, explain 37.9% of the variance of the criterion variable. The variable perfectionism is the one that predicts it to the highest extent, accounting for 16% of the variance. Among the most important aspects are the beta coefficient values. If we observe these coefficients, we can see that the following predictive variables were statistically significant: Dedication ($\beta = -.223$), nutrition ($\beta = -.135$), friendliness ($\beta = -.131$), growth ($\beta = .337$), satisfaction with life ($\beta = -.239$), absorption ($\beta = .473$), perfectionism ($\beta = .252$). All of them were significant.

The second model aims to analyse to what extent it can predict the criterion variable *work enjoyment* (WorkBAT). In the model summary, we can observe that the predictor variables, absorption, responsibility for one’s health, nutrition, growth, openness to experience, satisfaction with life and dedication account for 41.8% of the variance of the criterion variable, whereas the variable absorption, with 29.1% of the variance, stands out as the best predictor. The beta coefficient values were: Dedication ($\beta = -.202$), satisfaction with life ($\beta = -.127$), openness to experience ($\beta = -.124$), growth ($\beta = .204$), nutrition ($\beta = -.201$), responsibility for one’s health ($\beta = .221$) and absorption ($\beta = .359$).

The purpose of the third model was to analyse to what extent it can predict the criterion variable *working excessively* (DUWAS). In the model summary, we can observe that the variables absorption, satisfaction with life, perfectionism, self-efficacy, physical activity, emotional stability, responsibility for

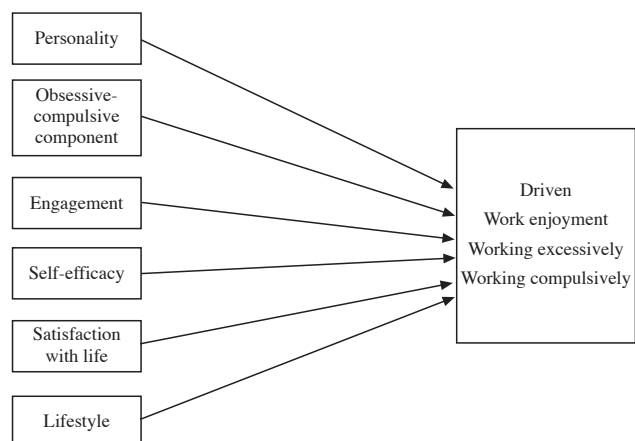


Figure 1. Model followed in this investigation

one's health and nutrition account for 20.1% of the variance of the criterion variable. The variable absorption appears to be the best predictor, with 10.8% of variance. The beta coefficients showed the following predictive variables to be statistically significant: Nutrition ($\beta = -.090$), responsibility for one's health ($\beta = .138$), emotional stability ($\beta = -.109$), physical activity ($\beta = -.142$), self-efficacy ($\beta = .187$), perfectionism ($\beta = .127$), absorption ($\beta = .297$) and satisfaction with life ($\beta = -.173$).

The purpose of the last model was to analyse to what degree it could predict the criterion variable *working compulsively* (DUWAS). In Table 1, we can see that the model, made up of the predictor variables perfectionism, absorption, satisfaction with life, self-efficacy, emotional stability, dedication, growth and nutrition, accounts for 19.7% of the variance of the criterion variable, whereas the variable perfectionism, with 9.5% of the variance, is the highest predictor. If we look at the beta coefficients, they indicate that the following predictor variables were statistically significant: Nutrition ($\beta = -.116$), growth ($\beta = .136$), dedication ($\beta = -.228$), emotional stability ($\beta = -.149$), self-efficacy ($\beta = .158$), satisfaction with life ($\beta = -.153$), absorption ($\beta = .335$) and perfectionism ($\beta = .232$).

Discussion

The results outlined above point to the fact that certain variables have predictive power over the four factors of Workaholism under study. The first objective was partially confirmed, given that the best predictor model features seven variables: perfectionism, absorption and growth, and inversely, satisfaction with life, friendliness, nutrition and dedication. We found that the personality variable, friendliness, included in the model, was a negative predictor, contrary to the findings of authors such as Hameed et al. (2013), who found a positive relation between the traits extraversion, responsibility and neuroticism and the components of workaholism, and that openness to experience related negatively with *driven*. Furthermore, Burke et al. (2006), in

the case of *driven*, found a positive relation with all the personality factors except openness to experience.

The engagement variables included in the model were absorption and, inversely, dedication. Shimazu et al. (2014) found a very weak positive relation between workaholism and engagement. On another hand, the predictive variable, self-efficacy, did not appear in the predictive model. Burke et al. (2006) however, indicate that self-efficacy relates positively and significantly with workaholism. As far as ICO is concerned, the perfectionism variable is included in the predictive model, whereas the variable excessive responsibility does not appear in the model. In this respect, Mudrack (2004), who examined the relationship between the obsessive-compulsive personality variables and workaholism, did not find a relation with the *driven* variable.

In our study, satisfaction with life was included in the predictive model as a negative predictor. Along these lines, Virick and Baruch (2007) found that high scores in *driven* decreased the balance between work life and satisfaction with life. As regards lifestyle, the predictive model includes growth and interpersonal relationships as positive and nutrition inversely, whereas no type of relation was found for responsibility for one's health and physical activity.

The second objective was partially verified, given that the best predictive model for work enjoyment featured the following seven variables: absorption, responsibility for one's health, growth and dedication, and inversely, nutrition, openness to experience and satisfaction with life. The only personality variable featured in the model was openness to experience, which had an inverse effect. Contrary to this finding, Abou-Deif et al. (2013) found a positive relationship between work enjoyment and all the personality factors. As regards engagement, the predictive model featured absorption and dedication. Some authors have found a very weak positive relation between workaholism and engagement (Shimazu et al., 2014).

On another hand, the self-efficacy variable was not included in the predictive model. This is contrary to Salanova et al. (2001),

Table 1
Summary of the predictive models for the four criterion variables

Variables predictivas	Factor 1 Work Bat Driven		Factor 2 Work Bat Work Enjoyment		Factor 1 Duwas Working excessively		Factor 2 Duwas Working compulsively	
	ΔR^2 corrected	β	ΔR^2 corrected	β	ΔR^2 corrected	β	ΔR^2 corrected	β
Ico.1.Perfec.Into.In	.162	.252	–	–	.019	.127	.095	.232
Enga.3.Absorption	.073	.473	.291	.359	.108	.297	.018	.335
Satis.with Life	.052	-.239	.008	-.127	.030	-.173	.029	-.153
Hplp.4.Growth.&.Inter.Rel.	.049	.337	.025	.204	–	–	.005	.136
op.4.Friendliness	.014	-.131	--	--	–	–	–	–
Hplp.3.Nutrition	.014	-.135	.027	-.201	.005	-.090	.011	-.116
Enga.2.Dedication	.015	-.223	.011	.202	–	–	.012	-.228
Hplp.1 Respons. Health	–	–	.044	.221	.008	.138	–	–
op 5. Openness to Exp.	–	–	.012	-.124	–	–	–	–
Self-efficacy	–	–	–	–	.010	.187	.015	.158
Hplp 2. Physical Act.	–	–	–	–	.012	-.142	–	–
op.2. Emotional Stability	–	–	–	–	.009	-.109	.012	-.149
Total explained variance (%)	37.9	–	41.8	–	20.1	–	19.7	–

Significance for all the data at $p < .01$

who tell us that self-efficacy generates wellbeing and who found a positive relation between work, self-efficacy and workaholism. Furthermore, high levels of self-efficacy could be related to high levels of workaholism (Ng et al., 2007). As far as obsessiveness and compulsiveness are concerned, the variables perfectionism and excessive responsibility do not appear in the predictive model. This is contrary to Mudrack's findings (2004) who, when he explored the relation between obsessive-compulsive personality traits and workaholism found that high work involvement, along with high scores in obsessive-compulsive traits lead to working unnecessarily.

Satisfaction with life appeared as a negative indicator in the predictive model, contrary to Virick and Baruch (2007), who found a positive association between work enjoyment and satisfaction with life. As regards lifestyle, the predictive model includes responsibility for one's health, growth and finally nutrition as a negative indicator, on the other hand it related positively with physical activity.

The third objective was confirmed in part, given that the best predictive model of working excessively contains eight variables. The direct variables were: absorption, perfectionism, self-efficacy and responsibility for one's health. And the inverse variables were: satisfaction with life, physical activity, emotional stability and nutrition. The personality variable that appeared in the predictive model and was negatively related was emotional stability. In this respect, Del Líbano (2011) had already found a negative relation between friendliness and emotional stability and working excessively.

The engagement variable that appears in the model is absorption, whereas vigour and dedication do not appear in the model. This is contrary to Del Líbano et al. (2012) who found a positive relation between the three engagement factors and working excessively. Another predictor variable that appeared in the regression model was self-efficacy. This finding is in keeping with the results found by Del Líbano et al. (2012) who demonstrated that self-efficacy related positively to working excessively.

Perfectionism (ICO) is included in the prediction model whereas the variable excessive responsibility (ICO) is not. Furthermore, Shimazu et al. (2012) demonstrated that workaholism is related to poorer health and less satisfaction with life. In our study, satisfaction with life negatively predicts working excessively. As regards lifestyle, we can say that responsibility for one's health positively predicts working excessively, whereas physical activity and nutrition are negative predictors.

And the fourth objective was confirmed in part, given that we found that the best predictor model for working compulsively includes the variables perfectionism, absorption, self-efficacy and growth, and inversely, the variables satisfaction with life, emotional stability, dedication and nutrition. As far as personality variables are concerned, emotional stability inversely predicts working compulsively whereas no relation was found for the four remaining dimensions (extraversion, responsibility, friendliness and openness to experience). In this respect, Del Líbano (2011) found an inverse relation between working compulsively and emotional stability.

As regards engagement, the variables included in the model were absorption and negatively, dedication. This is in line with the findings of authors such as Del Líbano et al. (2012), who found a positive relation between working compulsively and absorption and a negative relation between working compulsively and dedication. On another hand the self-efficacy variable appears in the predictive model despite the fact that authors such as Del Líbano et al. (2012) have demonstrated that self-efficacy relates positively with the other dimension of workaholism, working excessively. As regards the obsessive-compulsive component (ICO), the perfectionism variable is included in the predictive model, whereas the variable responsibility does not appear in the model.

Satisfaction with life operates inversely in the predictive model, in line with the findings of authors such as Shimazu et al. (2012), who demonstrated that workaholism was associated with an increase in bad health and less satisfaction with life. As regards lifestyle, the prediction model included nutrition as an inverse predictor and growth as a direct predictor and no relation was found with responsibility for one's health and physical activity.

In line with all the above, the present research study contributes to our body of knowledge of workaholism in various aspects that include personality, engagement, self-efficacy, ICO, satisfaction with life and lifestyle. Hence, healthy lifestyle both personal and professional, may be affected by workaholism. The results present important practical implications concerning workaholism that should be taken into consideration for adequate strategic human resources management inside organisations. Most important among these are the need to promote life satisfaction, employee training in aspects concerning responsibility for one's health, physical activity and nutrition, and encouraging growth and personal relationships.

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