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BEING HIGHLY SENSITIVE AT WORK AND EXPERIENCING FLOW: RISK FACTOR OR RESOURCE AGAINST STRESS AND WORKAHOLISM?

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Abstract

Workaholism (Oates, 1971) is characterized by a compulsive tendency to work, sometimes to the detriment of health, personal relationships and other aspects of life (Burke, 2001). It is often associated with work-related stress (Spence & Robbins, 1992). Stress corresponds to a relationship between an individual and the work environment that is perceived as challenging or overwhelming personal resources, thus posing a threat to well-being (Lazarus & Folkman, 1984). In the workplace, high sensitivity is generally considered a risk factor for stress (Veleanovici et al., 2023) or burnout (Bordarie & Mourtialon, 2023). When faced with overly intense stimuli, highly sensitive people may tend to isolate themselves or invest in activities that they enjoy. At work, this investment can sometimes lead to a state of flow, where a person is so engrossed in an activity that they forget their surroundings (Csikszentmihalyi, 1997). In this study, we focus on the effects of HSPS and flow on stress and workaholism. Our hypotheses are (1) all variables will be positively correlated, (2) HSPS will positively influence stress and workaholism, (3) workaholism will play a mediating role between HSPS and stress and (4) flow will positively influence the relationship between HSPS and other variables. The sample included 231 working adults, of whom 82.7% were women and 17.3% men. They were divided into 5 age groups: 33.3% between 18 and 24, 19.9% between 25 and 34, 16.5% between 35 and 44, 22.1% between 45 and 54 and 8.2% between 55 and 64. They anonymously completed an online questionnaire assessing sensitivity (HSPS-FR, 27 items, Bordarie et al., 2022), flow (FaW, 13 items, Crone et al., unpublished) and stress (PSS4, 4 items, Dupret & Bocéréan, 2013) and workaholism (WART, 25 items, Ravoux et al., 2018). Statistical analyses, including correlations, linear regressions and mediation models, were performed using JASP (version 0.18.3) and Jamovi (version 2.6.17.0). The results highlighted that the variables were positively correlated (p<.01), with the exception of flow, which was not correlated with HSPS, and perceived stress. HSPS had a positive effect on perceived stress (β=.301; p<.001) and workaholism (β=.461; p<.001). WART also had a positive effect on stress (β=.260; p<.001), playing a mediating role between HSPS and stress. Flow did not play a moderating role. We will discuss the results in relation to our hypotheses and in the light of the literature. We will point out the limitations of the study and suggest concrete ways in which organizations can optimize their working environments for the specific characteristics of employees.

Keywords: *Sensory processing sensitivity, workaholism, flow, stress, mediation.*

1. Introduction

Workaholism, first defined by Oates in the early 1970s, is characterized by a compulsive tendency to work, sometimes to the detriment of health, personal relationships and other aspects of life (Burke, 2001). Workaholics do not fit well into a work team, which can lead to conflicts with colleagues (Taghavi, 2012), and disruptions in family relationships or friendships can contribute to the development of a potential work addiction as a way of escaping problems (Scheen, 2013). In addition, organizational and societal cultures can create pressures that lead to workaholism and damage employees' mental health which is significantly associated with stress (Scheen, 2013). Jobs that require contact with the public or positions of responsibility and risk can encourage workaholism, and women are less affected by this phenomenon, being two to three times less likely to have a high-risk job (Scheen, 2013).

Workaholism can be induced by personality traits such as perfectionism, low self-esteem and negative affect, which are risk factors (Kun et al., 2021). In the workplace, high sensitivity is generally considered a risk factor for stress (Veleanovici et al., 2023) or burnout (Bordarie & Mourtialon, 2023). However, approximately 30% of the population can be considered highly sensitive (Lionetti et al., 2018),

which represents a high proportion of the population. High sensory processing sensitivity (HSPS) (Aron & Aron, 1997) is a personality trait that results in more intense and complex cognitive processing with increased emotional reactivity compared to their peers (Gere et al., 2009). People with high sensory processing sensitivity (HSPS) tend to perceive stress more strongly and report more frequent symptoms of illness (Benham, 2006).

When faced with overly intense stimuli, highly sensitive people may tend to isolate themselves or invest in activities that they enjoy. At work, this investment can sometimes lead to a state of flow, where a person is so engrossed in an activity that they forget their surroundings (Csikszentmihalyi, 1997). Flow' was first defined by Csikszentmihalyi (1975) as an intrinsically gratifying or "autotelic" experience. This term, derived from the Greek, combines 'auto' (self) and 'telos' (objective). Autotelicism, which refers to the tendency to engage in activities for the pleasure they bring, without expecting any external reward, is closely related to flow (Heutte, 2019).

2. Objectives and hypotheses

In this study, we focus on the impact of HSPS and flow on stress and workaholism. Our hypotheses are:

- Hypothesis 1: all variables will be positively correlated
- Hypothesis 2: HSPS will positively influence stress and workaholism
- Hypothesis 3: workaholism will play a mediating role between HSPS and stress.
- Hypothesis 4: flow will positively influence the relationship between HSPS and other variables.

3. Methods

3.1. Participants

The study involved 231 adults in employment. The sample consisted of 82.7% women and 17.3% men. They were divided into 5 age groups: 33.3% between 18 and 24, 19.9% between 25 and 34, 16.5% between 35 and 44, 22.1% between 45 and 54 and 8.2% between 55 and 64.

3.2. Procedure and recruitment

The study and research protocol were first validated by the Ethics Committee for Research Involving Human Subjects of the Universities of Tours and Poitiers (CER-TP) (number 2024-11-09). Participants were invited to answer a questionnaire hosted online on the Sphinx platform and were informed that their answers were anonymous and confidential. Before completing the questionnaire, participants were informed of the aims of the study and were explicitly asked for their consent.

3.3. Measures

The questionnaire consisted of questions on socio-demographic characteristics (e.g. gender, age categories) and four validated scales. The French version of the Highly Sensitive Person Scale (HSPS-FR) (Bordarie, Aguerre & Bolteau, 2022; adapted from Aron & Aron, 1997) was used to assess sensitivity (27 items). Stress was assessed with the French version of the Perceived Stress Scale (PSS4) (Lesage, Berjot & Deschamps, 2012; adapted from Cohen, Kamarck & Mermelstein, 1983) (4 items). Flow was measured using the Flow at Work (FaW) (Crone, Brune & Auzoult-Chagnault, 2019; adapted from Baker, 2008) (13 items). The French version of the Work Addiction Risk Test (WART) was also used (Taghavi, 2012; adapted from Robinson, 1999) (25 items). We can assume that a score between 25 and 54 indicates no workaholism, a score between 55 and 69 indicates low workaholism and a score between 70 and 100 indicates high workaholism.

The data were analyzed using JASP (version 0.19.3) and JAMOVI (version 2.6.25.0). The internal reliability of the scales was measured using Cronbach's alpha [HSPS-FR: α=.89; FaW: α=.89; PSS4: α=.79, WART: α=.89]. Descriptive analyses, correlations, Chi-2 tests, student tests, ANOVA and linear regressions were performed. Mediation and moderation analyses were also conducted.

4. Results

4.1. Descriptive results

According to the classification of Lionetti et al. (2018), 33.8% of participants (n=78) had low sensory processing sensitivity (SPS) scores (below 113), 36.8% (n=85) had moderate SPS scores (between 113 and 137) and 29.4% (n=68) had high SPS scores (above 137). Regarding work addiction, 29% (n=67) had no work addiction, 43.29% (n=100) had a low risk and 27.71% (n=64) had a high risk of work addiction. The Chi-2 test revealed an overrepresentation of individuals with a high risk of work addiction within the high sensory processing sensitivity group ($X2(4)=41.5$; $p<.001$).

Scale scores are shown in Table 1. In terms of socio-demographic characteristics, gender only influenced HSPS scores (t=-3.60; *p*<.001), as did age categories (F(4;226)=2.56; *p*=.039). However, with regard to age, the Bonferroni test showed only a difference between the youngest (18-24 years) and the 35-44 years group. The variables are positively correlated, with the exception of flow, which is not correlated with HSPS, and perceived stress (Table 2).

Table 1. Descriptive Statistics.

HSPS	VARIABLES	MEAN	STD. DEVIATION
Low		12.372	1.504
Medium	STRESS	12.882	1.636
High		13.441	1.470
Low		56.038	11.247
Medium	WART	61.541	10.513
High		68.574	10.852
Low		55.115	13.732
Medium	FLOW	52.176	14.353
High		53.632	13.729

Table 2. Matrix of correlation.

	HSPS	WART	STRESS	FLOW
HSPS	—	—	—	—
WART	.461***	—	—	—
STRESS	.301***	.260***	—	—
FLOW	-.053	.179**	.114	—

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

High sensory processing sensitivity positively influences perceived stress (β=.301; *p*<.001), explaining about 9% of the variance (r2=.091; F(1;229)=22.847; *p*<.001). HSPS also has a positive effect on workaholism (β=.461; *p*<.001), explaining about 21% of the variance (r2=.209; F(1;229)=61.841; *p*<.001). WART also has a positive effect on perceived stress (β=.260; *p*<.001), explaining about 7% of the variance (r2=.068; F(1;229)=16.652; *p*<.001). Conversely, flow experience is not influenced by either HSPS or WART, nor does it influence perceived stress.

In summary, the overall model (Table 3) (Figure 1) shows that both high sensory processing sensitivity and work addiction increase stress (*p*<.001). Workaholism is a mediator of the relationship between high sensory processing sensitivity and perceived stress. Flow is not a moderator of the relationship between high sensory processing sensitivity and other variables.

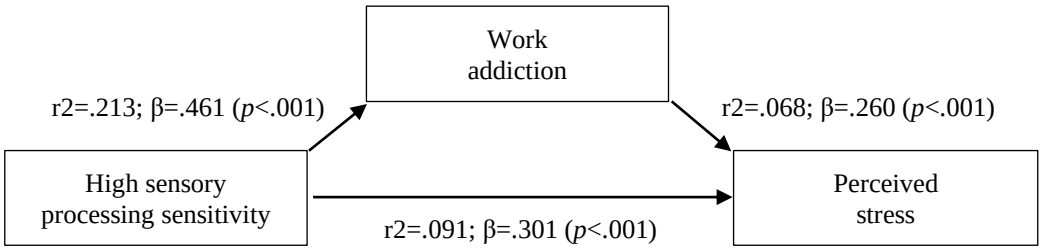
Table 3. Mediation estimates and path estimates.

			Mediation estimates			
Effect		**Estimate**	**SE**	**z**	***p***	**% mediation**
Indirect		.005	.002	2.12	.034	23.6
Direct		.016	.005	3.29	.001	76.4
Total		.020	.004	4.80	<.001	100.0
			Path estimates			
			Estimate	**SE**	**z**	***p***
HSPS	→	WART	0.233	0.030	7.90	<.001
WART	→	STRESS	0.021	0.009	2.20	.027
HSPS	→	STRESS	0.016	0.005	3.29	.001

5. Discussion

The aim of this study was to examine the relationship between sensory processing sensitivity, perceived stress, alcoholism at work and fluency. Four hypotheses were formulated. The first three hypotheses were mainly confirmed by our results. There is a positive correlation between these different concepts (confirming hypothesis 1), with the exception of fluency, which is only correlated with alcoholism at work. Gender and age influence HSPS scores. Women reported higher sensory processing sensitivity scores, which is consistent with the literature (e.g., Takahashi, 2016), although these findings are debated (e.g., Machingura et al., 2019). In terms of age, the difference was only observed between the youngest group (18-24 years) and the 35-44 years group.

Figure 1. Mediation model of the relationship between high sensory processing sensitivity and perceived stress through work addiction.



On the one hand, the results showed that the higher a person's sensitivity, the higher their level of stress and workaholism (confirming hypothesis 2). Our results are therefore in line with previous studies which have shown that highly sensitive people are more stressed (Benham, 2006; Veleanovici et al., 2023). In other words, the higher the sensory processing sensitivity, the more it tends to increase perceived stress. Conversely, the relationship between HSPS and addiction is less clear. Some studies show an association with substance addiction (Aghajani & Ghazani, 2021; Keyvanlo et al., 2023) or with behavioural addictions such as internet addiction (Ershova et al., 2020). Others find no association (Mary-Krause et al., 2022). In this study, HSPS increased work addiction, which played a mediating role between HSPS and perceived stress (confirming hypothesis 3). This opens up avenues for research into the effects of HSPS in the workplace. On the other hand, the higher their experience of flow, the higher their workaholism. However, flow did not play a moderating role between HSPS and the other variables (rejecting hypothesis 4).

There are some limitations to consider. In our sample, the proportion of men was quite low compared to women, which makes it difficult to generalize the conclusions of this study. In addition, we focused on the overall results on each scale, without considering the interrelationships between the components. The components of the HSPS have different, sometimes opposing effects, especially if we look at the aesthetic component, which is regularly confirmed in the literature to have a protective effect, particularly in the workplace, for example against burnout (Bordarie & Mourtialon, 2023).

In terms of perspectives, we could suggest that the same study be carried out under more favorable conditions in order to obtain a larger sample with more men. It would be interesting to carry out analyses on a categorical basis. This study opens up new avenues on the relationship between HSPS and workaholism and its consequences for the quality of life and specific working conditions of highly sensitive individuals. Future studies could also focus on the interconnexion with big five personality dimensions and investigate the link with these variables.

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