Personality Profiles that Put Users at Risk of Perceiving Technostress – A Qualitative Comparative Analysis with the Big Five Personality Traits

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Appendix A

Relevant Personality Literature (on Big Five Personality Traits) in the Field of IS in the Senior Scholars' Basket of Journals[1]

Authors	Major finding	Big Five personality trait	Separate	Profile
Barnett et al. 2015	There is a direct relationship between the Big Five personality traits and actual ICT use as well as perceived use. Concretely, conscientiousness is positively associated with perceived and actual use, neuroticism negatively. Extraversion is negatively associated with actual use, which is the opposite direction than hypothesized.	Openness to experience, neuroticism, agreeableness, conscientiousness, extraversion	x	
Devaraj et al. 2008	The Big Five personality traits are related to the acceptance of an ICT through direct and moderating effects on the acceptance-related concepts perceived usefulness, intention to use an ICT, and subjective norms. Concretely, neuroticism (negatively) and agreeableness (positively) are associated with perceived usefulness of an ICT. Moreover, conscientiousness, extraversion, and agreeableness moderate the relationship between subjective norms and intention to use an ICT. Conscientiousness also moderates the relationship between perceived usefulness and intention to use the ICT.	Openness to experience, neuroticism, agreeableness, conscientiousness, extraversion	x	
Eckhardt et al. 2016	The Big Five personality traits are predictors of the basic constructs of IT personnel turnover, like job satisfaction, organizational commitment, and turnover intention (indirectly). However, the findings differ between different job types like IT consultants, programmers, system engineers, and system administrators.	Openness to experience, neuroticism, agreeableness, conscientiousness, extraversion	x	
Junglas et al. 2008	Agreeableness, conscientiousness, and openness to experience influence the concern for privacy.	Openness to experience, neuroticism, agreeableness, conscientiousness, extraversion	x	
Lee et al. 2017	Conscientiousness positively influences individuals' willingness to report errors. Moreover, conscientiousness has an indirect effect as it influences the perception of benefits and costs.	Conscientiousness	x	
Maier et al. 2019	The personality traits personal innovativeness in IT, IT mindfulness and the Big Five personality trait neuroticism influence the perception of techno-stressors. IT mindfulness has the strongest influence, compared to the other two personality traits.	Neuroticism	x	
McElroy et al. 2007	Big Five personality traits predict different facets of internet use, whereas individual cognitive style does not. Concretely, openness is a significant predictor of general internet use, and neuroticism is a strong predictor for the specific internet use in terms of e-buying and e-selling.	Openness to experience, neuroticism, agreeableness, conscientiousness, extraversion	x	
Srivastava et al. 2015	The Big Five personality traits influence how perceived techno-stressors are translated into the job outcomes job burnout and job engagement.	Openness to experience, neuroticism, agreeableness, conscientiousness, extraversion	x	
Venkatesh et al. 2014	The Big Five personality traits conscientiousness, extraversion, and openness as well as the personality trait personal innovativeness in IT predict the use of an e-Government portal.	Openness to experience, neuroticism, agreeableness, conscientiousness, extraversion	x	
Paper at hand	The Big Five personality traits interact amongst each other and combine into personality profiles. Six different personality profiles influence the perception of techno-stressors.	Openness to experience, neuroticism, agreeableness, conscientiousness, extraversion		x

[1] European Journal of Information Systems, Information Systems Journal, Information Systems Research, Journal of AIS, Journal of Information Technology, Journal of MIS, Journal of Strategic Information Systems, MIS Quarterly.

Appendix B

Relevant Technostress Literature in the Senior Scholars' Basket of Journals

Authors	Major finding	Techno-stressors	Personality traits
Ayyagari et al. 2011	Technology characteristics predict the perception of stressors, and the perception of stressors (especially work overload and role ambiguity) predict the perception of strain.	Work-home conflict, invasion of privacy, work overload, role ambiguity, job insecurity	
Chen and Karahanna 2018	The study investigates the individual influence of techno-stressors on employee innovation and reveals curvilinear relationships between techno-stressors and techno-strain, i.e. reduced employee innovation.	Techno-overload, techno-invasion, techno-complexity, techno-insecurity, techno-uncertainty	
Chen and Wei 2019	Social-related enterprise social media use leads to increased overload (informational and social), whereas work-related enterprise social media use leads to decreased overload (informational and social). The relationships are moderated by the communication visibility. Only social overload, but not information overload results in strain.	Perceived information overload, perceived social overload	
Galluch et al. 2015	Techno-stressors and their perception lead to psychological and physiological strain. These processes are influenced by control that users have, e.g. control over the timing of techno-stressors or control over the method that is used for accomplishing a task.	Overload, conflict	
Maier et al. 2015a	The extent of social network site usage, number of friends on the social network site, subjective social support norms, and type of relationships contribute to social overload due to their social network site use. Social overload in turn leads to social network site exhaustion, low user satisfaction, and high intention to stop using the social network site.	Social overload	
Maier et al. 2015b	Social network site stressors lead to discontinued use of social network sites, which is partly mediated by social network site exhaustion. Moreover, switching stressors make the continued use of social network sites less likely, which is partly mediated by switching exhaustion.	Social network site stressors: social overload, invasion, complexity, disclosure, pattern, uncertainty Switching stressors: transition costs, sunk costs, replacement overload	Neuroticism, extraversion
Maier et al. 2019	Personality traits from different hierarchical levels lead users to perceive techno-stressors. The personality trait of the lowest level (IT mindfulness) has the strongest impact on perceived techno-stressors. Moreover, the findings highlight that the influence of perceived technostress on user performance is inverted u-curved. High as well as low perceived technostress leads users to perform low.	Techno-overload, techno-invasion, techno-complexity, techno-insecurity, techno-uncertainty	Neuroticism, personal innovativeness in IT, IT mindfulness
Pirkkalainen et al. 2019	Proactive and reactive coping behaviors influence the effects of techno-stressors and IT-enabled productivity. Proactive coping behavior includes positive reinterpretation and IT control, reactive coping includes distress venting and distancing from IT.	Techno-overload, techno-invasion, techno-complexity, techno-insecurity	
Ragu-Nathan et al. 2008	Five different factors create technostress (techno-stressors). The techno-stressors lead to psychological strain. Technostress inhibitors (e.g. support provision) lead to decreased strain. Demographic factors and computer confidence influence technostress.	Techno-overload, techno-invasion, techno-complexity, techno-insecurity, techno-uncertainty	
Salo et al. 2019	The qualitative approach reveals two patterns of social network sites characteristics and stressors that generate strain in users. Moreover, four types of strain that are relevant for the well-being of users are yielded, namely concentration problems, sleep problems, identity problems, and social relation problems.	Social network site stressors: overdependence, overload, life comparison discrepancy, online discussion conflict, privacy and security uncontrollability	

Srivastava et al. 2015	Personality influences how techno-stressors affect job burnout and job engagement.	Techno-overload, techno-invasion, techno-complexity, techno-insecurity, techno-uncertainty	Openness to experience, extraversion, agreeableness, neuroticism, conscientiousness
Stich et al. 2019	Users appraise their e-mail use as stressful when there is a misfit between the actual e-mail use and the desired e-mail use. Thus, too much and too little e-mail use are associated with stressors, namely work relationship stressor, job control stressor, and job condition stressor.	Work relationship stressor, job control stressor, job condition stressor	
Tams et al. 2014	Combing both, psychological/self-reported and physiological measures of technostress leads to better explanation and prediction of task performance.	Interruptions due to ICTs	
Tams et al. 2018	Interruptions lead to mental workload, which leads to perceived stress and impaired task performance. The effects are moderated by age, which is attributable to age-related differences in inhibitory effectiveness, computer experience, and computer self-efficacy.	Interruptions due to ICTs	
Tarafdar et al. 2007	Techno-stressors lead to low performance. Moreover, techno-stressors lead to role stress, which additionally impairs performance.	Techno-overload, techno-invasion, techno-complexity, techno-insecurity, techno-uncertainty	
Tarafdar et al. 2010	Organizational factors like involvement facilitation and support decrease the perception of techno-stressors and strain. Techno-stressors lead to reduced user satisfaction and performance.	Techno-overload, techno-invasion, techno-complexity, techno-insecurity, techno-uncertainty	
Tarafdar et al. 2015	Techno-stressors lead to low performance and low innovation. Technostress inhibitors (e.g. support provision) lead to decreased techno-stressors and strain. Furthermore, technology competence and technology self-efficacy reduce strain.	Techno-overload, techno-invasion, techno-complexity, techno-insecurity	
Tarafdar et al. 2020	Distraction is a coping behavior of users in response to social network site stressors and explains why there may be a link between social network site stressors and technology addiction to the social network site.	Social network site stressors: social overload, pattern, invasion, disclosure, complexity, uncertainty	
Paper at hand	The Big Five personality traits interact amongst each other and combine into personality profiles. Six different personality profiles influence the perception of techno-stressors.	Techno-overload, techno-invasion, techno-complexity, techno-insecurity, techno-uncertainty	Openness to experience, neuroticism, agreeableness, conscientiousness, extraversion

Appendix C

Common Method Bias and Late Response Bias

We followed recommendations for self-reported data (Chin et al. 2012) and tested for common method bias (CMB) by relying on three different tests. First, we applied Harman's single factor test, which reveals that one factor only explains 37 percent of the variance, which is below the recommended threshold of 50 percent (Podsakoff et al. 2003). Second, we examined the correlation matrix (see Table 3), which does not reveal any high correlations ($r > 0.90$) (Pavlou et al. 2007) while the highest correlation is 0.65 for techno-insecurity and techno-complexity. Third, we followed recommendations (Williams et al. 2003) to test CMB with the help of PLS. For this, we transformed all items into single item constructs and compared the ratio of R^2 with a CMB factor to R^2 without a CMB factor. This comparison results in a ratio of 1:149, thus CMB does not distort the results (Liang et al. 2007). Based on all three tests, we can state that CMB is not an issue in this study. Moreover, we tested for a response bias by performing a late-response bias test. Early and late respondents were compared regarding age, sex, and ICT use and no significant differences were found at the 0.05 level. Thus, we conclude that late response bias does not distort our data.

Appendix D

Measures

Construct	Measure	Loading
Openness to experience (Srivastava et al. 2015), Cronbach's α = 0.87	I see myself as creative.	0.961
	I see myself as imaginative.	0.921
	I see myself as unconventional. *	
Neuroticism (Srivastava et al. 2015), Cronbach's α = 0.75	I see myself as moody.	0.799
	I see myself as easily upset.	0.846
	I see myself as anxious.	0.817
Agreeableness (Srivastava et al. 2015), Cronbach's α = 0.75	I see myself as sympathetic.	0.728
	I see myself as warm. *	
	I see myself as kind.	0.991
Conscientiousness (Srivastava et al. 2015), Cronbach's α = 0.74	I see myself as dependable.	0.761
	I see myself as self-disciplined.	0.714
	I see myself as organized.	0.909
Extraversion (Srivastava et al. 2015), Cronbach's α = 0.85	I see myself as extraverted.	0.894
	I see myself as enthusiastic.	0.851
	I see myself as talkative.	0.880
Techno-overload (Ragu-Nathan et al. 2008), Cronbach's α = 0.86	I am forced by ICTs to work much faster.	0.795
	I am forced by ICTs to do more work than I can handle.	0.882
	I am forced by ICTs to work with very tight time schedules.	0.881
	I am forced to change my work habits to adapt to new technologies. *	
	I have a higher workload because of increased ICT complexity.	0.743
Techno-invasion (Ragu-Nathan et al. 2008), Cronbach's α = 0.79	I spend less time with my family due to ICTs. *	
	I have to be in touch with my work even during my vacation due to ICTs.	0.896
	I have to sacrifice my vacation and weekend time to keep current on new ICTs.	0.900
	I feel my personal life is being invaded by ICTs.	0.720
Techno-complexity (Ragu-Nathan et al. 2008), Cronbach's α = 0.86	I do not know enough about ICTs to handle my job satisfactorily.	0.721
	I need a long time to understand and use new ICTs.	0.962
	I do not find enough time to study and upgrade my ICT skills.	0.741
	I find new recruits to this organization know more about ICTs than I do.	0.719
	I often find it too complex for me to understand and use new ICTs.	0.787
Techno-insecurity (Ragu-Nathan et al. 2008), Cronbach's α = 0.86	I feel constant threat to my job security due to new ICTs.	0.853
	I have to constantly update my skills to avoid being replaced. *	
	I am threatened by coworkers with newer ICT skills.	0.891
	I do not share my knowledge with my coworkers for fear of being replaced.	0.800
	I feel there is less sharing of knowledge among coworkers for fear of being replaced.	0.725
Techno-uncertainty (Ragu-Nathan et al. 2008), Cronbach's α = 0.83	There are always new developments in the technologies we use in our organization.	0.745
	There are constant changes in computer software in our organization.	0.846
	There are constant changes in computer hardware in our organization.	0.803
	There are frequent upgrades in computer networks in our organization.	0.852
Note: * these items have been deleted because their loadings are lower than the recommended threshold of 0.707 (Carmines and Zeller 2008)		

Appendix E

Descriptive Statistics

Constructs	M	SD	CR	AVE	1	2	3	4	5	6	7	8	9	10
1 Openness to experience	5.39	1.34	0.94	0.89	0.94									
2 Neuroticism	3.95	1.32	0.86	0.67	-0.06	0.82								
3 Agreeableness	5.43	1.11	0.85	0.74	0.19	-0.17	0.85							
4 Conscientiousness	5.29	1.21	0.83	0.63	0.16	-0.14	0.09	0.79						
5 Extraversion	4.28	1.47	0.91	0.76	0.27	-0.16	0.32	0.16	0.87					
6 Techno-overload	3.88	3.88	0.90	0.70	0.06	0.20	0.06	-0.04	0.10	0.84				
7 Techno-invasion	3.97	3.96	0.87	0.69	0.17	0.10	0.05	0.08	0.11	0.60	0.83			
8 Techno-complexity	3.12	3.12	0.89	0.63	-0.10	0.09	-0.02	-0.02	0.15	0.35	0.28	0.79		
9 Techno-uncertainty	3.08	3.10	0.89	0.66	0.22	0.13	-0.08	0.10	0.13	0.29	0.37	0.23	0.81	
10 Techno-insecurity	4.73	4.73	0.89	0.61	-0.09	0.19	-0.04	-0.04	0.04	0.51	0.41	0.65	0.28	0.78
Note: square root of AVE is listed on the diagonal of bivariate correlations; M = mean, SD = standard deviation; CR = composite reliability; AVE = average variance extracted														

Appendix F

HTMT Values

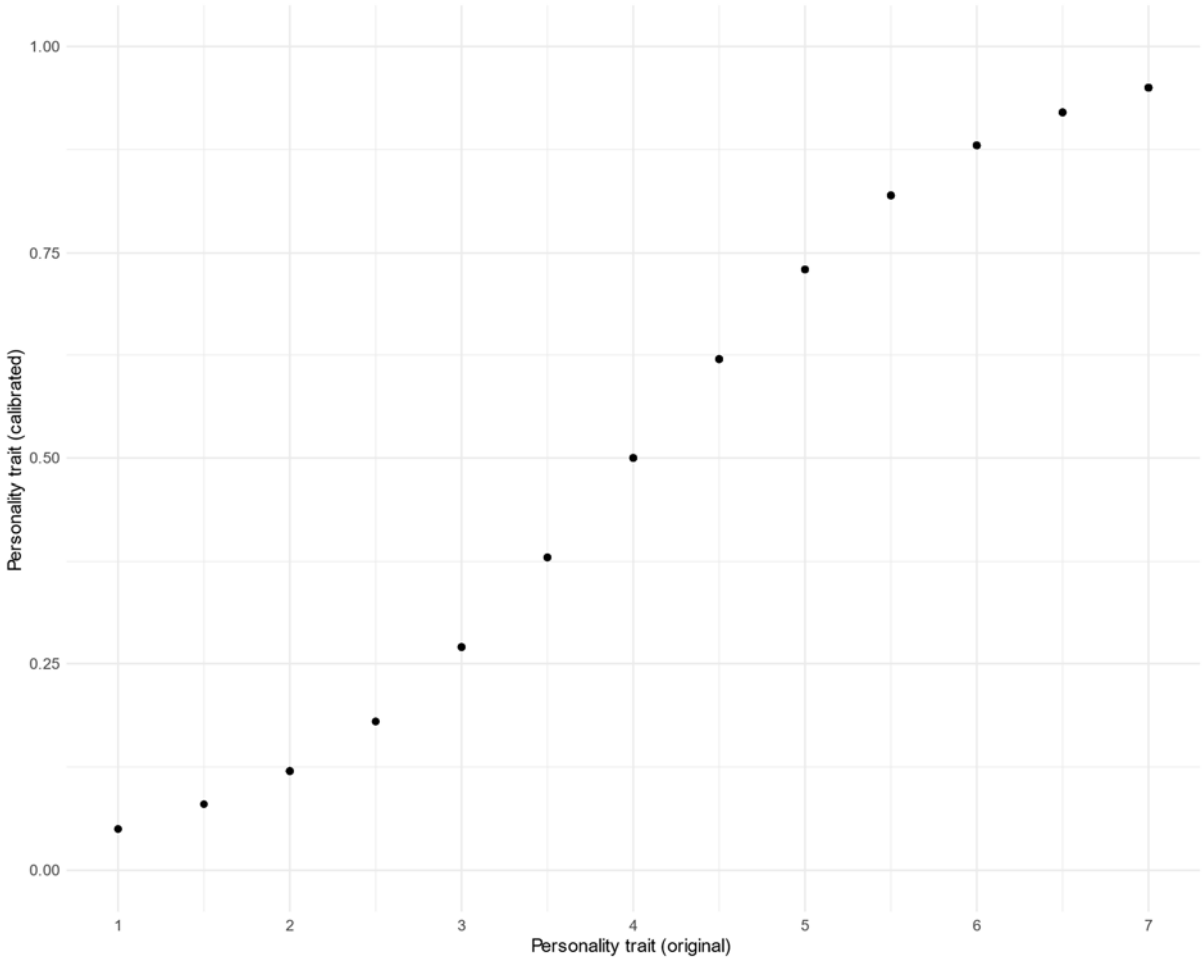
Constructs	1	2	3	4	5	6	7	8	9	10
1 Openness to experience										
2 Neuroticism	0.11									
3 Agreeableness	0.22	0.21								
4 Conscientiousness	0.15	0.24	0.14							
5 Extraversion	0.31	0.19	0.44	0.20						
6 Techno-overload	0.09	0.22	0.06	0.06	0.10					
7 Techno-invasion	0.16	0.19	0.11	0.10	0.14	0.68				
8 Techno-complexity	0.10	0.16	0.07	0.09	0.16	0.43	0.44			
9 Techno-uncertainty	0.24	0.17	0.11	0.15	0.19	0.37	0.46	0.30		
10 Techno-insecurity	0.10	0.24	0.08	0.06	0.08	0.60	0.58	0.61	0.37	

Appendix G

Fuzzy Sets and Example Plot of Original and Calibrated Data

Fuzzy set (fs) QCA requires fuzzy sets, which can have any value ranging from 0 to 1 (Ragin 2000). For instance, a fuzzy set membership of 1 for extraversion indicates that a person is completely extraverted ('high on extraversion'), while a fuzzy set membership of 0 indicates that a person is completely not extraverted ('low on extraversion'). Because fuzzy sets can have any set membership in between, a fuzzy set membership of 0.75 could represent that a person is rather extraverted but not as extraverted as a person with a fuzzy set membership of 1.

The transformation of the constructs, which are measured on a Likert-scale, into fuzzy sets is done with a logistic function, which is implemented in the fsQCA software (Ragin et al. 2016). For this function, three anchors are defined. One anchor for the full membership, one anchor for the full non-membership and finally one anchor for the point of maximum ambiguity. In this study we use the value 7 as the anchor for full membership, the value 1 for full non-membership and the value 4 for the point of maximum ambiguity. All values between 4 and 7 get transformed to fuzzy sets above 0.50 and all values between 4 and 1 get transformed to fuzzy sets below 0.50. An example plot of the mean value of a personality trait (on the x-axis) and the corresponding fuzzy set (on the y-axis) is shown below.



Appendix H

Reduced Truth Table for Configurations Predisposing to Perceive High Techno-Stressors

The table below shows the reduced truth table, where only configurations are displayed which exceed the frequency threshold. We see that there are nine sufficient configurations. Using the Quine-McCluskey algorithm, which uses logical minimization, helps to reduce the total number of sufficient configurations without losing any information. This is possible when there is redundant information in sufficient configurations (Ragin 2014). For instance, considering the second and the ninth row. We see that those two sufficient configurations only differ in the openness to experience. This means that we have one sufficient configuration (see row 2) where openness to experience is low, neuroticism and agreeableness are high while conscientiousness and extraversion are low. At the same time, there is a second sufficient configuration (see row 9), which is the same with the exception that openness to experience is high instead of low. Thus, with logical minimization using the Quine-McCluskey algorithm, we can merge those to sufficient configurations into one sufficient configuration where openness to experience is a 'don't care' situation (see main manuscript configuration C1).

Row	Openness to experience	Neuroticism	Agree-ableness	Conscien-tiousness	Extraversion	Freq.	High techno-stressors	Consis-tency
1	1	1	0	0	0	4	**1**	0.97
2	0	1	1	0	0	4	**1**	0.95
3	0	1	0	1	0	3	**1**	0.93
4	0	1	1	1	1	4	**1**	0.93
5	0	0	1	1	0	3	**1**	0.92
6	0	1	1	1	0	7	**1**	0.92
7	1	1	0	1	0	6	**1**	0.91
8	1	0	1	0	1	5	**1**	0.91
9	1	1	1	0	0	3	**1**	0.91
10	1	1	1	0	1	5	0	0.89
11	1	1	1	1	1	53	0	0.86
12	1	1	1	1	0	30	0	0.84
13	1	0	1	1	0	26	0	0.80
14	1	0	1	1	1	59	0	0.77

Note: Freq. = frequency of the configuration; sufficient configurations are marked with the value 1 in the column 'High techno-stressors'.

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