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Personality and defensive behaviour: A factor analytic approach to threat scenario choices

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ABSTRACT

Although people tend to react in specific ways in threatening situations, research points to the importance of individual differences in these defensive behaviours. From the perspective of reinforcement sensitivity theory (RST), this study examined the role of personality traits in defensive behaviours. Four RST questionnaires and Blanchards' threat scenarios were used, with a total of 1019 participants. The threat scenarios were modified and examined by exploratory factor analysis (EFA), while their relationship with the RST questionnaires was explored by correlational and regression analyses. The EFA revealed an orthogonal two-dimensional structure of defensive direction: defensive direction towards threat and defensive direction away from threat, while defensive intensity was not separately extracted. The results revealed that different operationalizations of the BAS, BIS and FFFS, from the various RST questionnaires, produced different associations with Blanchards' threat scenarios. In general, the BIS, Flight and Freezing scales predicted tendencies to move away from the threat, while Fight and some BAS Scales predicted tendencies to move towards the threat, in dangerous situations. These findings challenge some aspects of RST, especially their lack of association between the BIS and defensive direction towards threat. Directions for further research are indicated.

Imagine you are walking alone in the street. Suddenly a man with a knife starts running in your direction. How will you react? Would you fight or flee? If there are no individual differences in defensive behaviour, all people should behave in the same manner in such a life-threatening situation. Certainly, when the influences of situations and traits are compared, the situation has the greater impact at the behavioural level (Ein-Dor & Perry-Paldi, 2014). Still, people differ in their levels of fear and anxiety, and, as shown below, these differences should be expected to relate to differences in defensive reactions. For example, in occupational life some people have a preference for being soldiers and fire-fighters, and during leisure activities some have a preference towards dangerous hobbies such as free climbing and paragliding. Other people would not dream of engaging in these occupations or activities. In the clinical domain, people who suffer from phobic disorders can perceive even walking in a neighbourhood as a life-threatening activity. Hence it seems that, indeed, people do differ in the way they perceive and behave in potentially threatening situations.

Currently, RST is the most prominent theory explaining the role of individual differences in fear- and anxiety-related behaviours, and also approach-related behaviours. It is a neuropsychological theory of personality that assumes the existence of three emotion-motivation systems: one approach system (Behavioural Approach System, BAS); and two avoidance systems (Behavioural Inhibition System, BIS; and Fight, Flight, Freezing System, FFFS). The most distinctive features of the two avoidance systems are emotional output and defensive direction: the BIS activates behavioural repertoire when moving *towards* a threat, eliciting the emotional state of anxiety; while the FFFS activates behaviour that moves the individual *away* from the threat and elicits the emotional state of fear (Corr, 2008, 2011, 2013; Gray & McNaughton, 2000; McNaughton & Corr, 2004).

FFFS-related fear should occur in the context of much clearer danger, eliciting avoidance and escape behaviours, whereas BIS-related anxiety should occur in ambiguous threat situations, leading to risk assessment (checking out, exploration, investigation) (Blanchard, Hynd, Minke, Minemoto, & Blanchard, 2001). In the prediction of specific defensive behaviour, situational factors need to be taken into account. When a place of concealment/protection is present in a clearly dangerous situation, hiding is elicited; but, in the context of inescapable dangerous situations, two distinct defensive behaviours could be elicited: freezing or attack (defensive fight). If the source of threat is in the near spatio-temporal distance, and escape is not possible, then freezing ('playing dead') is an adaptive form of immobilization in order to evade detection. However, if spotted by the threat, then the only viable behavioural reaction is to attack the source of threat in order (a) to protect oneself and (b) escape the situation. There are now extensive experimental

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animal studies supporting these statements (Blanchard et al., 2001; Blanchard, Griebel, Pobbe, & Blanchard, 2011; Corr & McNaughton, 2008; Shuhama, Del-Ben, Loureiro, & Graeff, 2007).

In marked contrast to animal studies, examination of human defensive behaviour typically relies on self-report data, which is reasonable from the points of view of ethics and convenience. Although self-report methodology has limitations, it still provides an invaluable source of information (Pappens et al., 2013). However, issues are raised concerning the compatibility of behavioural and questionnaire data, and how each set of data relates to findings from experimental animals.

The best-known self-report instrument for measuring defensive behavioural repertoire in humans was developed by Blanchard et al. (2001) on the basis of their extensive rodent studies. Twelve scenarios, presenting different threatening situations, are modelled on distance to threat and situational factors of avoidance/escapability. Additionally, ten behaviours are provided from which participants must choose to match the 12 threat scenarios: hide; freeze, immobilization; run away, try to escape; threaten to scream or call for help; yell, scream, or call for help; threaten to attack; attack or struggle; check out, approach, or investigate; look for something to use as a weapon; and beg, plead for mercy, or negotiate. Studies have indicated that threat scenarios can predict (Erber, Szuchman, & Prager, 2001) or even elicit emotional and physiological reactions (Bernat, Calhoun, & Adams, 1999; Conklin, Tiffany, & Vrana, 2000). Hence, findings suggest that they can be used as a roughly fair measure of defensive behavioural repertoire.

Previous data indicate that personality explains a significant portion of individual variances in Blanchards' threat scenarios. Perkins and Corr (2006) developed a coding system to assess *defensive direction* and *defensive intensity* (see Fig. 1). These constructs present an important way to understand individual differences in defensive behaviours (Corr & McNaughton, 2012; Gray & McNaughton, 2000; McNaughton & Corr, 2004). Defensive intensity presents a perceived spatio-temporal distance of the threat, while defensive direction presents behavioural tendencies that can be divided into direction *towards* or direction *away from* the threat. Studies have shown that anxious and fear-prone individuals have shorter defensive distance (i.e., they experience threatening stimuli as being more intense than others). In relation to personality, Spielberger's trait anxiety is associated with a tendency to orientate towards the threat (Perkins & Corr, 2006); psychoticism (tough-mindedness) negatively relates to defensive intensity; while the BIS scale positively correlates with both defensive intensity and direction (Perkins, Cooper, Abdelall, Smillie, & Corr, 2010; Perkins & Corr, 2006).

Studies showing the importance of personality in these threat scenarios pose some methodological problems and unresolved issues. First, threat scenarios provide responses at a nominal measurement level, which limits the possible range of available statistical procedures to analyse defensive behaviours. The first attempt to calculate total scores from threat scenarios came from Perkins and Corr (2006). They developed a coding system for defensive direction and distance upon theoretical assumptions of RST, but it has not yet been empirically tested by means of exploratory factor analysis (EFA). Secondly, a recent study suggests differences in operationalization of the BIS and FFFS scales between various RST purpose-built questionnaires (Krupić, Križanić, Ručević, Gračanin, & Corr, submitted for publication). Hence, both the threat scenarios and personality questionnaires deserve further empirical examination, before a relation between personality and threat scenarios can be firmly established.

The aim of this study is to test the relevance of personality traits in threat scenarios. Bearing in mind these methodological problems, the coding system will be examined, and several RST questionnaires that contain separate BIS and FFFS scales will be compared.

Psychometric examination of the coding system requires a slight methodological modification of the threat scenarios. In addition to the original procedure for the threat scenarios, five-point rating scales are provided for each of the 10 defensive behaviours for the 12 threat scenarios. This modification in procedure allows the computing of total scores for the 10 defensive behaviours across the 12 threat situations, which in addition allows closer examination by exploratory factor analysis (EFA). These results may support or suggest modifications to the operationalization of defensive intensity and defensive direction. Furthermore, administering four RST questionnaires alongside the threat scenarios allows detection of operational differences between competing questionnaires in relation to the statistically derived factors of defensive behaviour.

On the basis of previous studies, we expected to replicate past findings: (a) the BIS and FFFS correlate with defensive intensity, reflecting greater overall threat sensitivity; (b) the FFFS positively correlates with defensive direction (moving away from the source of threat); and (c) the BIS negatively correlates with defensive direction (moving towards the source of threat).

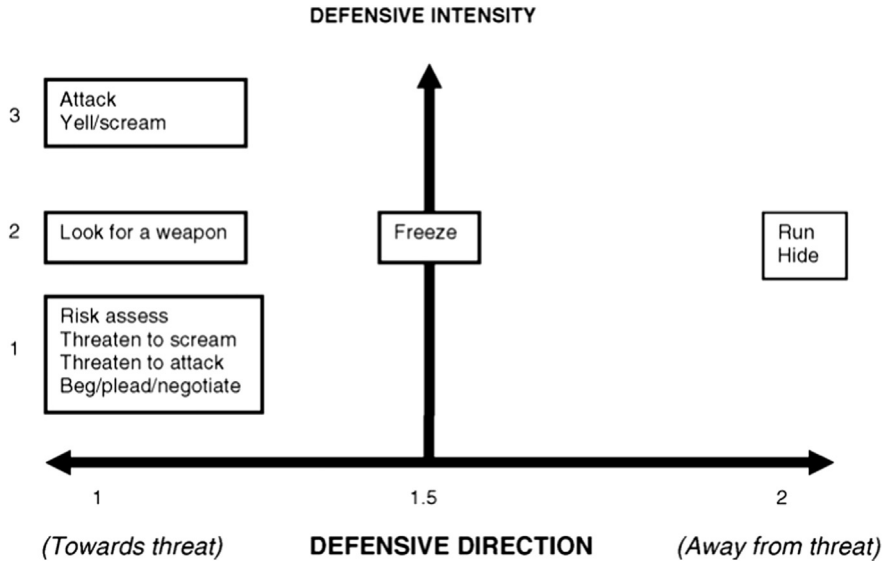

Fig. 1. Threat-scenario response choices coded for defensive intensity and defensive direction (Perkins & Corr, 2006).

1. Method

1.1. Participants and procedure

A total of 1019 participants (412 males) ranging in age from 12 to 68 (M = 23.78, SD = 8.23) completed a battery of questionnaires online via Limesurvey software.

1.2. Instruments

Threat scenarios (Blanchard et al., 2001) have been studied previously (Mesquita et al., 2011; Perkins & Corr, 2006; Perkins et al., 2010; Shuhama et al., 2007). They are designed to measure 10 defensive behaviours in 12 threatening situations. This instrument was administered using the original procedure as in Blanchard et al. (2001). Defensive behaviours were rated on a 5-point Likert-type scale. Furthermore, scores for defensive direction and defensive intensity were computed in accordance with the procedure detailed by Perkins and Corr (2006) using these formulae: *Defensive intensity* = (Risk assessment + Threaten to scream + Threaten to attack + Begging) + 2 × (Looking for a weapon + +Freezing + Run + Hide) + 3 × (Attack + Yell/Scream); and *Defensive direction* = (Risk assessment + Threaten to scream + Threaten to attack + Begging + Looking for a weapon + Attack + Yell / Scream) + 1.5 × Freezing + 2 × (Run + Hide).

All subscales computed with the modified procedure achieved Cronbach's alpha greater than .80, with defensive intensity and direction below .70, at α = .66 and .62, respectively (see Table 2).

Four RST questionnaires were administered to obtain measures of the BAS, BIS and FFFS. The most widely-used RST questionnaire, the 20-item BIS/BAS Scales (Carver & White, 1994) contains the BIS scale and three BAS subscales: Drive, Fun-seeking and Reward Responsiveness. Later, Corr and McNaughton (2008) suggested splitting the BIS scale into BIS and FFFS scales, which is applied in this study. Items "*Even if something bad is about to happen to me, I rarely experience fear or nervousness*" and "*I have few fears compared to my friends*" formed FFFS, whereas the other five formed the BIS scale, as used in Beck, Smits, Claes, Vandereychen, and Bijttebier (2009). One of the most recent RST questionnaires, the 30-item Jackson 5 (Jackson, 2009), contains five scales: BAS, BIS, Fight, Flight and Freezing, the same as the 29-item Reinforcement Sensitivity Questionnaire (RSQ; Smederevac, Mitrović, Čolović, & Nikolašević, 2014). Finally, a 79-item version of the Reinforcement Sensitivity Theory Personality Questionnaire (RST-PQ; Corr & Cooper, 2016) was used (5 items were fillers). This has four scales: BAS (with four subscales: Reward Interest, Goal-Drive Persistence, Reward Reactivity, and Impulsivity), BIS and FFFS, accompanied by a separate measure of Defensive fight. All of the four RST questionnaires are well-studied and possess adequate psychometric characteristics. All questionnaires are translated into, and validated in, the Croatian language (Krupić, et al., submitted for publication).

Table 1
Pattern matrix of defensive behaviour scales from the threat scenarios.

	Factor		h^2
	Defensive direction away from threat	Defensive direction towards threat	
Yell/scream	**.869**	.085	.759
Threaten to scream	**.849**	.162	.740
Run	**.795**	−.167	.666
Hide	**.741**	.015	.549
Freezing	**.694**	−.231	.543
Beg/plead/negotiate	**.644**	.168	.437
Attack	−.028	**.907**	.824
Threaten to attack	.076	**.876**	.770
Look for a weapon	.188	**.639**	.438
Risk assessment	−.252	**.408**	.235

Loadings above 0.30 are bolded. The eigenvalue of the third, unretained, factor was 0.84. h^2 = communality coefficient.

2. Results

The results of EFA, examining the factor structure of Blanchards' threat scenarios, are presented in Table 1, and descriptive statistics and correlations with personality questionnaires in Table 2, while correlation between four RST questionnaires can be found in Supplementary materials. The KMO measurement adequacy coefficient was .79. We used principal-axis factoring as a method of extraction with oblique rotation. Upon three criteria (eigenvalue greater than one, scree plot and parallel analysis) we decided for a two-factor solution that explained 59.61% of the variance. Correlation between the two axes was $r = .02$. The two factors are labelled *defensive direction away from threat* and *defensive direction towards threat*.

For comparability with previous studies, defensive intensity and defensive direction were computed upon the original coding system. Defensive direction away from threat and defensive direction towards threat are reliable scales, achieving a Cronbach's α reliability coefficient of .78 and .89, respectively, while defensive intensity and defensive direction have somewhat lower reliability coefficients, $\alpha = .66$ and .62, respectively. Correlations of defensive direction with defensive direction away from threat and defensive direction towards threat were $r = .52$ and $r = -.48$, respectively, while defensive intensity correlated only with defensive direction away from threat ($r = .39$). Finally, defensive direction and defensive intensity correlated positively ($r = .41$), which is very similar to what was obtained in Perkins and Corr (2006) and Perkins et al. (2010).

All correlation coefficients were significant at $p < .01$. These results suggest that defensive direction is not unidimensional, but rather a two-dimensional and orthogonal construct, while defensive intensity is not uniquely captured by the modified threat scenarios.

The correlations between personality and behavioural defensive tendencies are presented in a 14 x 22 correlation matrix. Two main patterns of correlation are most relevant. First, the scales of BIS, Flight and Freezing correlate positively with defensive direction away from threat, and negatively with defensive direction towards threat. The only exception is the BIS of Jackson 5, which correlated very poorly with all defensive behaviours. Secondly, all fight scales correlated positively with defensive direction towards threat. Correlations with defensive direction away from threat were all very small and negative. Hence, individuals high on BIS, Flight and Freezing have greater tendencies to move away from the threat in potentially life-threatening situations. The BIS of Jackson 5 is the only scale that shows a different pattern of correlation. It achieves a very low correlation with all defensive behaviours. In contrast, individuals high on Fight scales have a tendency to actively defend themselves by attacking in the same situations.

Additionally, there are two patterns of correlation between BAS Scales and defensive direction away from threat and defensive direction towards threat. The BAS Scales that correlate positively with defensive direction towards threat and not with defensive direction away from threat are: Drive, Fun-seeking, BAS (Jackson 5), Reward Interest and Impulsivity (RST-PQ), and BAS (RSQ). A near-opposite pattern of correlation was observed with Reward Responsiveness, Goal-Drive Persistence and Reward Reactivity. These results support previous findings of the existence of two BAS types of scale (Krupić & Corr, 2014; Krupić, Gračanin, & Corr, 2016; Smillie, Jackson, & Dalgleish, 2006).

Predictive validity of RST questionnaires was further examined using hierarchical regression analysis, controlling for the effects of gender and age (Table 3). In the first block we entered gender and age, and in the second block we entered scales for each RST questionnaire separately. R^2 change was used to compare predictive validity among different RST questionnaires. They explained between 4.5 and 18.50% of the variance of defensive direction away from threat, and 3.7–16.7% of the variance of defensive direction towards threat. The Jackson 5 explained the most variance, then RST-PQ and RSQ, while significantly lower predictive validity was shown by the BIS/BAS Scales.

Table 2
Correlation matrix for the four RST questionnaires and defensive intensity, defensive direction, defensive tendency away from and towards the threat and the ten distinct defensive behaviours of the threat scenarios, and descriptive data for the threat scenarios.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
BIS/BAS Scales														
Drive	.02	−.05	−.05	−.06	.01	.04	.03	.01	−.00	.10**	.08*	.09**	.11**	.14**
Fun-seeking	.02	−.01	−.05	−.06	.02	−.01	.01	−.02	−.02	.07*	.08*	.07*	.09**	.10**
Reward Responsiveness	.09**	.15**	.04	.08*	.19**	.10**	.14**	.03	.13**	−.07*	−.10**	−.04	.08*	−.04
BIS-anxiety	.17**	.26**	.24**	.33**	.28**	.20**	.27**	.13**	.32**	−.14**	−.15**	−.16**	.01	−.15**
BIS-fear	.20**	.27**	.19**	.31**	.22**	.16**	.22**	.14**	.25**	−.11**	−.13**	−.22**	−.03	−.18**
Jackson 5														
BAS	−.03	−.02	−.05	−.07*	.02	.00	.02	.00	−.01	.04	.04	.15**	.07*	.11**
BIS	.06*	.09**	.07*	.11**	.16**	.10**	.13**	.07*	.14**	.01	−.04	.05	.10**	.07*
Fight	.04	−.24**	−.11**	−.18**	−.14**	−.05	−.05	−.09**	−.14**	.36**	.38**	.16**	.37**	.44**
Flight	.32**	.36**	.39**	.43**	.40**	.38**	.44**	.30**	.53**	−.05	−.08**	−.27**	.07*	−.11**
Freezing	.28**	.35**	.40**	.52**	.36**	.32**	.36**	.31**	.50**	−.07*	−.12**	−.28**	.03	−.16**
RST-PQ														
Reward interest	−.07*	−.08*	−.08**	−.09**	−.04	−.01	−.02	−.02	−.06	.07*	.06	.16**	.02	.11**
Goal-Drive persistence	−.00	.05	−.02	.02	.09**	.07*	.07*	.02	.06*	−.04	−.05	.05	.02	.02
Reward reactivity	.09**	.10**	.09**	.13**	.18**	.14**	.18**	.09**	.18**	.05	.01	.03	.11**	.07*
Impulsivity	.07*	−.02	−.01	.03	.02	.10**	.08**	.00	.05	.20**	.15**	.08**	.16**	.18**
BIS	.21**	.32**	.28**	.38**	.29**	.24**	.26**	.18**	.36**	−.06	−.10**	−.20**	.04	−.12**
FFFS	.33**	.43**	.38**	.52**	.42**	.37**	.42**	.27**	.53**	−.10**	−.15**	−.31**	.01	−.19**
Defensive fight	.01	−.20**	−.12**	−.14**	−.12**	−.07*	−.08**	−.11**	−.14**	.29**	.29**	.19**	.27**	.35**
RSQ														
BAS	−.04	−.14**	−.09**	−.14**	−.08*	−.01	−.04	−.05	−.08**	.19**	.17**	.19**	.10**	.22**
BIS	.21**	.27**	.29**	.39**	.26**	.24**	.27**	.23**	.37**	−.06	−.10**	−.23**	−.01	−.15**
Fight	.09**	−.19**	−.07*	−.10**	−.09**	.02	.01	−.06	−.07*	.30**	.30**	.12**	.28**	.33**
Flight	.19**	.39**	.35**	.38**	.44**	.29**	.34**	.26**	.45**	−.16**	−.20**	−.23**	.02	−.20**
Freezing	.26**	.30**	.35**	.53**	.31**	.29**	.32**	.28**	.46**	−.09**	−.14**	−.25**	−.05	−.20**
Cronbach's α	.66	.62	.85	.93	.86	.90	.89	.92	.78	.88	.88	.86	.89	.89
M	20.67	16.16	22.78	26.99	36.54	27.69	30.08	22.04	166.10	28.24	29.14	37.40	34.57	129.18
SD	3.26	2.31	7.86	10.97	9.78	10.01	10.31	9.10	46.85	9.53	9.25	9.98	10.03	30.14
Skewness	.12	.00	.71	.40	−.50	.13	−.06	.83	.02	.23	.34	−.08	−.12	.21
Kurtosis	1.29	.12	.29	−.71	−.14	−.79	−.77	−.00	−.43	.34	−.20	−.32	−.60	−.27

Note: 1 — Defensive intensity; 2 — Defensive direction; 3 — Hide; 4 — Freezing; 5 — Run; 6 — Threaten to scream; 7 — Yell/scream; 8 — Beg/plead/negotiate; 9 — Total, defensive direction away from threat; 10 — Threaten to attack; 11 — Attack; 12 — Risk assessment; 13 — Look for a weapon; 14 — Total, defensive direction towards threat.

Both BIS scales of the BIS/BAS Scales correlated positively with defensive direction away from threat, as did the BIS scales of Jackson 5 and RST-PQ, and only the BIS of RST-PQ correlated negatively with defensive direction towards threat. All Flight/Freezing scales predicted defensive direction away from threat, while only RST-PQ predicted defensive direction towards threat. All Fight scales predicted defensive direction towards threat. Finally, the BAS of RSQ, Impulsivity and Drive predicted defensive direction towards threat, while the rest of the BAS subscales were not significant predictors.

3. Discussion

The main aim of this study was to examine the role of personality traits in predicting defensive behavioural repertoire in the threat scenarios of Blanchard et al. (2001) using a new methodological approach. The second aim was to explore potential bias in results due to differences between various RST purpose-built questionnaires. Using a 5-point scale, and measuring 10 threat reactions for all 12 scenarios, defensive intensity and defensive directions as defined by nominal measurement were replaced by two orthogonal dimensions of defensive direction towards threat and defensive direction away from threat. This modified procedure revealed a different set of results: originally, defensive direction represented a bipolar continuum, while our data indicate that the two sides of the continuum reflect two orthogonal dimensions.

In line with our first hypothesis, we replicated the findings using the original coding system of defensive intensity and defensive direction. Specifically, the BIS and FFFS of all four RST questionnaires correlated positively with defensive intensity and defensive direction, which is line with the previous findings (Perkins & Corr, 2006; Perkins et al., 2010). Furthermore, there are theoretically congruent findings in the correlations between fight/flight/freezing behavioural reactions and their personality-trait namesakes, indicating good predictive validity. However, the BIS of all four questionnaires did not correlate with either risk assessment or defensive direction towards threat; this does not meet the predictions of RST, and it also confirms previous findings (Perkins & Corr, 2006; Perkins et al., 2010). The BIS and Flight and Freezing scales represent defensive behaviour that moves away from the threat, while the Fight scales represent defensive behaviour that moves the individual towards the threat. According to the theory, the BIS should show an opposite pattern. The one crumb of comfort was the higher correlation of RST-PQ fear with defensive direction away from threat, as compared with RST-PQ anxiety. Overall, the results provide partial support for the theoretical assumptions. The Flight/Freezing scales predict defensive direction away from threat, while the Fight scales predict defensive direction towards threat.

The most problematic finding is the positive correlation between the BIS and defensive direction away from threat, instead of with defensive direction towards threat (particularly with risk assessment), as was predicted. This finding is not in line with the pharmacologic study of Perkins et al. (2013), where the anxiolytic drug lorazepam had decreased risk-assessment behaviour in anxious individuals. This discrepancy may be caused by the difference between self-report and behavioural experiments. However, in the same study, Perkins et al. (2013) also discuss joint effects of lorazepam on panic and anxiety symptoms. They explain that it is possible that anxiolytic drugs affect threat perception, which can trigger both anxiety and phobia. This may be relevant for evaluation of the items in the RST questionnaires in this study. Items in the BIS scales in all four RST questionnaires refer to end states of anxiety that are very similar to end states of fear. It may be more appropriate if the BIS scales focus on situations that *trigger* anxiety and related defensive behaviours. According to RST, anxiety rises when approaching a threat, and in the end it will result in a similar emotional state of fear (high arousal). On the other hand, fear should rise moment after the presence of the threat and should result in moving away from the threat. According to this view, highly anxious

Table 3
Hierarchical regression analysis for RST questionnaires in prediction of defensive direction away from threat and defensive direction towards threat, controlled for effects of gender and age.

Predictors and step		Defensive direction away from threat				Defensive direction towards threat			
		β	R^2	ΔR^2	ΔF	β	R^2	ΔR^2	ΔF
BIS/BAS Scales									
1	Gender	−.498**	.265	.265	173.488**	.295**	.087	.087	45.899**
	Age	−.096**				.000			
2	Gender	−.433**	.310	.045	12.602**	.268**	.124	.037	8.073**
	Age	−.092**				.000			
	Drive	−.001				.143**			
	Fun-seeking	−.030				.066			
	Reward	−.003				−.069			
	Responsiveness								
	BIS-anxiety	.150**				−.024			
	BIS-fear	.115**				−.078*			
Jackson 5									
1	Gender	−.498**	.265	.265	173.488**	.295**	.087	.087	45.899**
	Age	−.096**			64.166**	.000			
2	Gender	−.341**	.450	.185		.207**	.254	.167	42.903**
	Age	−.067**				−.017			
	BAS	.000				.017			
	BIS	.080**				−.052			
	Fight	−.112**				.415**			
	Flight	.273**				−.014			
	Freezing	.197**				−.069			
RST-PQ									
1	Gender	−.498**	.265	.265	173.488**	.295**	.087	.087	45.899**
	Age	−.096**				.000			
2	Gender	−.336**	.424	.158	37.498**	.232**	.216	.129	22.404**
	Age	−.061*				−.013			
	Reward interest	−.020				−.030			
	Goal-drive persistence	−.007				−.053			
	Reward reactivity	.077*				.047			
	Impulsivity	−.004				.092**			
	BIS	.072*				−.081*			
	FFFS	.346**				−.089*			
	Defensive fight	−.144**				.297**			
RSQ									
1	Gender	−.498**	.265	.265	173.488**	.295**	.087	.087	45.899**
	Age	−.096**				.000			
2	Gender	−.374**	.409	.143	46.435**	.248**	.206	.119	28.678**
	Age	−.073**				.003			
	BAS	−.035				.100**			
	BIS	.027				.003			
	Fight	.021				.271**			
	Flight	.210**				−.034			
	Freezing	.229**				−.078*			

individuals should have a lower threshold of experiencing anxiety when entering threat situations, while more fearful individuals should express more intense behavioural reaction when the threat is already present. Similarly, this argument also applies for Blanchards' threat scenarios. All items describe final behavioural manifestations, without describing the processes that precede the final behavioural output. In light of this, the BIS and FFFS, both predicting defensive direction away from threat, can be interpreted as being consistent with RST if we assume that they concern end states. Therefore, before coming to any final conclusions concerning defensive direction of anxiety, it may be more suitable to use behavioural tasks or more carefully planned experimental studies that could operationalize processes underlying the BIS.

To conclude, three of the four RST questionnaires (BIS/BAS Scales, RSQ and RST-PQ) highly converge in the BIS scales. The exception is the BIS of Jackson 5, which has the most distinct correlations with the threat scenarios (for more details, see Corr, 2016; Krupić, et al., submitted for publication). Furthermore, the BIS/BAS Scales show the lowest predictive validity for defensive behaviours. Although the BIS of the BIS/BAS Scales correlates highly with the BIS of RSQ and of RST-PQ, separating the 7-item scale into two very small subscales (BIS-anxiety and BIS-fear) can result in reduced variance and a lower reliability coefficient. These two can significantly attenuate correlation with external variables. Thus, it should be more suitable to use RSQ and RST-PQ in the study of defensive behaviour. Finally, Blanchards' threat scenarios differentiate two defensive behaviours that are distinguished by direction, and this is not appropriate as an instrument of defensive intensity.

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