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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 the reinforcement sensitivity theory (RST), this study examined the role of personality traits in predicting these fight, flight and freeze behaviours. Four RST questionnaires and the Blanchards' threat scenarios were used with a total of 1,019 participants. Threat scenarios were modified and examined by exploratory factor analysis (EFA), while their relationship with RST questionnaires was explored by correlational and regression analyses. The EFA revealed an orthogonal two-dimensional structure of defensive direction: Defensive direction toward threat, and defensive direction away threat while defensive intensity was not separately extracted. Results revealed that different operationalisations of the BAS, BIS and FFFS, from the various RST questionnaires, produced different associations with the Blanchards' threat scenarios. In general, BIS, Flight and Freezing scales predicted tendencies moving away from the threat, while Fight and some BAS scales predicted tendencies moving toward threat in dangerous situations. These findings challenge some aspects of RST, especially the lack of association between the BIS and defensive direction toward threat. Directions for further research are indicated.

Keywords: reinforcement sensitivity theory, personality, threat, defensive behaviour

Personality and defensive behaviour:

A factor analytic approach to threat scenario choices

Imagine you are walking alone in the street. Suddenly a man with a knife starts running in your direction. How would 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 influence 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 occupation life some people have a preference towards occupations such as soldiers, 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 dangerous 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 emotional-motivational systems: one approach system (i.e., Behavioural Approach System, BAS); and two avoidance systems (i.e., Behavioural Inhibition System, BIS; and Fight, Flight, Freeze System, FFFS). The most distinctive features of the two avoidance systems are emotional output and defensive direction: The BIS activates behavioural repertoire when moving *toward* threat, eliciting the emotional state of anxiety; while the FFFS activates behaviour

that moves the individual *away* from threat and elicits the emotional state of fear (Corr, 2008; Corr, 2011; 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 prediction of specific defensive behaviour, situation factors need to be taken into account. When a place of concealment/protection is present in clearly dangerous situations, 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 near temporo-spatial distance, and escape is not possible, then freezing ('playing dead') is an adaptive form of immobilization in order 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 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 ethical and convenience points of view. Although self-report methodology has limitations, it still presents 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 human was developed by Blanchard et al. (2001) on the basis of their extensive rodent

studies. Twelve scenarios present different threatening situations are modelled on distance to threat and situational factors of avoidance/escapability. Additionally, ten behaviours are provided from which participants must chose 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 it can be used as roughly fair measure of defensive behavioural repertoire.

Previous data indicate that personality explains a significant portion of individual variances in the Blanchard's threat scenarios. Perkins and Corr (2006) developed a coding system to assess *defensive direction* and *defensive intensity* (see Figure 1). These constructs present an important way to understand individual differences in defensive behaviours (Gray & McNaughton, 2000; McNaughton & Corr, 2004). Defensive intensity presents a perceived temporo-spatial distance of the threat, while defensive direction presents behavioural tendencies that can be divided into direction *toward* 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 threat (Perkins & Corr, 2006); psychoticism (tough-mindedness) negatively relates to defensive intensity; while the BIS scale positively correlates to 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 on 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, 2015). Hence, both the threat scenarios and personality questionnaires deserve further empirical examination, before relation between personality and threat scenarios can be 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. Beside the original procedure for the threat scenarios, five point rating scales are provided for each of 10 defensive behaviours for the 12 threat scenarios. This modification in procedure allows the computing of total scores for 10 defensive behaviours across 12 threat situations. This modified procedure permits 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 statistical 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).

Method

Participant and procedure

A total of 1,019 university students (412 males) ranging in age from 12 to 68 ($M = 23.78$, $SD = 8.23$) completed a battery of questionnaires online via Limesurvey software.

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. 2008). They are designed to measure 10 defensive behaviours in 12 threatening situations. This instrument was administered in original procedure as in Blanchard et al's (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 & Corr (2006) using the formula: *Defensive intensity* = (Risk assessment + Threaten to scream + Threaten to attack + Begging) + 2 X (Looking for a weapon + Freeze + Run + Hide) + 3 X (Attack + Yell/Scream); and *Defensive direction* = (Risk assessment + Threaten to scream + Threaten to attack + Begging + Looking for a weapon + Attack + Yell/Scream) + 1.5 X Freeze + 2 X (Run + Hide).

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

RST personality trait. 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 & McNaughton (2008) suggested splitting the BIS scale into BIS and FFFS scale, 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 BIS scale, as used in Beck, Smits, Claes, Vandereycken, & Bijttebier (2009). One of the most recent RST questionnaires, the 30-items Jackson 5 (Jackson, 2009), contains five scales: BAS, BIS, Fight, Flight and Freezing, the same as 29-item Reinforcement Sensitivity Questionnaire (RSQ; Smederevac, Mitović, Čolović & Nikolašević, 2014). Finally, a 73-item Reinforcement Sensitivity Theory Personality Questionnaire (RST-PQ; Corr & Cooper, 2015) has four scales: BAS (with four subscales: Reward Interest, Goal-Drive Persistence, Reward Reactivity, and Impulsivity), BIS and FFFS, accompanied with a separate measure of Defensive Fight. All of the four RST questionnaires are well studied and possess adequate psychometric characteristics. All questionnaires are translated and validated in Croatian language (Krupić et al., 2015).

Results

Results of EFA examining factor structure of Blanchard's threat scenarios are presented in Table 1, and descriptive statistics and correlations with personality questionnaires in Table 2. Measurement adequacy coefficient KMO was .79. We used

principal axis factoring as a method of extraction with oblique rotation. All three criteria (eigenvalue larger than one, Scree plot and parallel analysis) suggested a two-factor solution that explained 59.61% of variance. Correlation between two axes was $r = .02$. The two factors are labelled *defensive direction away from threat* and *defensive direction toward threat*.

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

All correlation coefficients were significant at $p < 0.01$. These results suggest that Defensive direction is not unidimensional, but rather is a two-dimensional and orthogonal construct, while defensive intensity is not uniquely captured with modified threat scenarios.

- TABLE 1 -

Correlation between personality and behavioural defensive tendencies. Data are presented in 14 x 22 correlation matrix. Two main patterns of correlations are most relevant. First, scales of BIS, Flight and Freezing correlate positively with defensive direction away threat, and negatively with defensive direction toward threat. The only exception is the BIS from Jackson 5, which correlated very poorly with all defensive behaviours. Secondly, all fight scales correlated positively with defensive direction toward threat. Correlations with

defensive direction away threat were all very small and negative. Hence, individuals high on BIS, Flight and Freeze have greater tendencies to move away from a threat in potentially life-dangerous situations. The BIS from Jackson 5 is the only scale that show different pattern of correlations. It achieves very small correlation with all defensive behaviours. On the contrary, individuals high on Fight scales have 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 threat and defensive direction toward threat. BAS scales that correlate positively to defensive direction toward threat and not with defensive direction away threat are: Drive, Fun Seeking, BAS (Jackson-5), Reward Interest and Impulsivity (RST-PQ), and BAS (RSQ). Almost reversed pattern of correlation were observed with Reward responsiveness, Goal-Drive persistence and Reward Reactivity. These results support previous findings of existence of two BAS types of scales (Krupić & Corr, 2014; Krupić, Gračanin, & Corr, 2015; Smillie, Jackson, & Dalgleish, 2006).

- TABLE 2 -

- TABLE 3 -

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

Both BIS scales from BIS/BAS Scales, Jackson-5 and RST-PQ correlated positively with defensive direction away threat, and only BIS from RST-PQ correlated negatively to defensive direction toward threat. All Flight/Freezing scales have predicted defensive direction away threat, while only RST-PQ have predicted defensive direction toward threat. All fight scales have predicted defensive direction toward threat. Finally, BAS from RSQ, Impulsivity and Drive predicted defensive direction toward threat, while rests of BAS subscales were not significant predictors.

Discussion

The main aim of this study was to examine the role of personality traits in predicting defensive behavioural repertoire in Blanchard et al.'s (2001) threat scenarios 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 toward threat and defensive direction away threat. This modified procedure revealed a different set of results: originally, defensive direction represented a bipolar continuum, while our data indicate that 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 (Perkins & Corr, 2006; Perkins et al., 2010). Furthermore, theoretically congruent findings are correlations between fight, flight, freezing behavioural reactions and their same-named personality traits, indicating good predictive validity. However, the BIS from all four

questionnaires did not correlate with either risk assessment or with defensive direction toward threat, which did not meet the RST prediction and also confirm previous findings (Perkins & Corr, 2006; Perkins et al., 2010). The BIS and Flight and Freezing scales represents defensive behaviour that moves away from the threat, while fight scales represent defensive behaviours that moves individual toward 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 threat, as compared with RST-PQ anxiety. Overall, results provide partial support for the theoretical assumption. The Flight/Freeze scales predict defensive direction away threat, while Fight scales predict defensive direction toward threat.

The most problematic finding is the positive correlation between the BIS and defensive direction away threat, instead with defensive direction toward threat (particularly with risk assessment), as was predicted. This finding is not in line with pharmacologic study of Perkins et al. (2013), where anxiolytic drug lorazepam had decreased risk assessment behaviour in anxious individuals. This discrepancy may be caused by difference between self-report and behavioural experiments. However, in the same study, Perkins et al. (2013) also discuss on joint effects of lorazepam on panic and anxiety symptoms. They explain that it is possible that anxiolytic drugs effects on threat perception that can trigger both anxiety and phobia. This may be relevant for evaluation of the items in RST questionnaires in this study. Items in 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 focuses 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 similar emotional state of fear (high arousal). On other hand, fear should rise momentary after presence of the threat and

should result in moving away from threat. According to this view, highly anxious individuals should have lower threshold of experiencing anxiety when *entering* in threat situations, while more fearful individuals should express more intense behavioural reaction when threat is already present. Similarly, this argument also applies for Blanchard's threat scenarios. All items describe final behavioural manifestations, without describing processes that precedes the final behavioural output. In light of this, the BIS and FFFS both predicting defensive direction away threat can be interpreted as being consistent with RST if we assume that they concern end-state. 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, four RST questionnaires highly converge, except the BIS scale from Jackson-5. Further, the BIS/BAS scales show the lowest predictive validity for defensive behaviours, and it should be more suitable to use RSQ and RST-PQ in study of defensive behaviour. Finally, Blanchard's threat scenarios differentiate two defensive behaviours that are distinguished by direction, and it is not appropriate as an instrument of defensive intensity. We suggest future studies use more experimental designs to study anxiety and fear-related behaviours.

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Table 1. Pattern matrix of defensive behaviours scale

	Factor		
	Defensive	Defensive	h^2
	direction away	direction toward	
	from threat	threat	
Yell scream	.869	.085	.759
Threaten to scream	.849	.162	.740
Run	.795	-.167	.666
Hide	.741	.015	.549
Freeze	.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.

Table 2. Correlation matrix of four RST questionnaires and defensive intensity, defensive direction, defensive tendency moving away and toward threat and ten distinct defensive behaviours of threat scenarios threat scenarios and descriptive data for 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	.09**	.15**	.04	.08*	.19**	.10**	.14**	.03	.13**	-.07*	-.10**	-.04	.08*	-.04
Responsiveness														
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	-.010	-.02	-.02	-.06	.07*	.06	.16**	.02	.11**
Goal Drive	-.00	.05	-.02	.02	.09**	.07*	.07*	.02	.06*	-.04	-.05	.05	.02	.02
Persistence														
Reward	.09**	.10**	.09**	.13**	.18**	.14**	.18**	.09**	.18**	.05	.01	.03	.11**	.07*
Reactivity														
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**
Freeze	.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 - Freeze; 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 toward threat

393 *Table 3. Hierarchical regression analysis for RST questionnaires in prediction of Defensive*
 394 *direction away threat and Defensive direction toward threat controlled for effects of*
 395 *gender and age*

		Defensive direction away threat				Defensive direction toward threat			
<i>BIS/BAS Scales</i>									
Predictors and step		β	R ²	ΔR^2	ΔF	β	R ²	ΔR^2	ΔF
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 Responsiveness	-.003				-.069			
	BIS-Anxiety	.150**				-.024			
	BIS-Fear	.115**				-			
						.078*			
<i>Jackson -5</i>									
Predictors and step		β	R ²	ΔR^2	ΔF	β	R ²	ΔR^2	ΔF
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

Predictors and step	β	R ²	ΔR^2	ΔF	β	R ²	ΔR^2	ΔF
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

Predictors and step	β	R ²	ΔR^2	ΔF	β	R ²	ΔR^2	ΔF
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*			

Figure 1

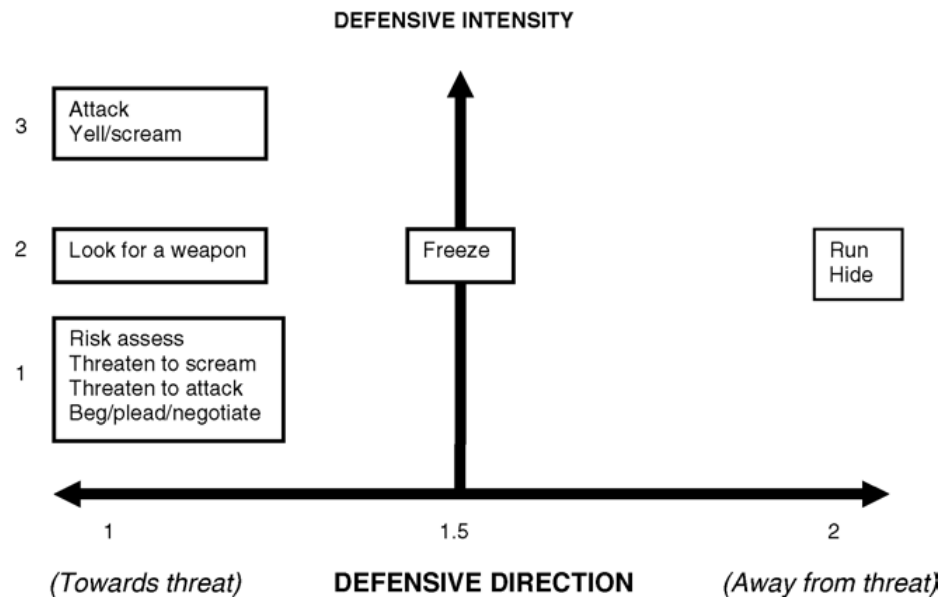


Fig. 1. Threat scenario response choices coded for defensive intensity and defensive direction
(Perkins & Corr, 2006)