



All anger is not created equal: A multi-method approach to understanding the link of anger responses with approach and avoidance motivation



Ana Nanette Tibubos*, Eliza Katharina Pott, Kerstin Schnell, Sonja Rohrmann

Goethe University Frankfurt, Germany

ARTICLE INFO

Article history:

Received 3 September 2013
Received in revised form 16 June 2014
Accepted 27 June 2014
Available online 24 July 2014

Keywords:

State anger
Anger coping
Behavioral Inhibition System (BIS)
Behavioral Approach System (BAS)
Approach motivation
Avoidance motivation
Multi-methodological approach

ABSTRACT

The aim of the study was the investigation of the relationship between the Behavioral Inhibition System (BIS), the Behavioral Approach System (BAS), and state anger with a multi-methodological (self-report, physiological, and behavioral) approach. Additionally, as previous work on the relation of anger with self-report measures of BIS and BAS facets has been limited to hypothetical anger responses, we examined anger responses after real-life provocation. Female non-psychology students ($N = 100$) participated in this experimental study. While self-reported anger responses were predicted by an interaction of BIS and BAS-Reward Responsiveness, behavioral (verbal) responses were only related to the BIS. With regard to cardiovascular anger responses, there was a positive main effect of BAS-Reward Responsiveness on heart rate response and systolic blood pressure at the beginning of the anger provocation period. Results showed that depending on the assessment of anger BIS/BAS predicted anger responses differently. Our findings suggest that immediate anger responses have a stronger association to BAS, while anger responses including evaluative processes, e.g. verbal anger expression at behavioral level, seem to be primarily determined by BIS. Whether state anger is associated rather with approach or with avoidance motivation seems to depend primarily on the operationalization of state anger.

© 2014 Elsevier Ltd. All rights reserved.

1. Introduction

Clear evidence has been found demonstrating the link of anger with both the Behavioral Inhibition System (BIS) and the Behavioral Approach System (BAS) (Carver, 2004; Carver & Harmon-Jones, 2009; Cooper, Gomez, & Buck, 2008; Harmon-Jones, 2003; Hewig, Hagemann, Seifert, Naumann, & Bartussek, 2004; Smits & Kuppens, 2005; Wingrove & Bond, 1998). While negative affects are considered as being exclusively related with the avoidance motivational system represented by the BIS (e.g. Watson, Wiese, Vaidya, & Tellegen, 1999), anger seems to have specific properties due to its association with approach motivation reflected by the activation of the BAS (Carver & Harmon-Jones, 2009). However, most studies investigating the relations of BIS and BAS with anger focused on anger responses in hypothetical situations (Cooper et al., 2008; Harmon-Jones, 2003; Smits & Kuppens, 2005). For this reason, the present experiment was designed to investigate the

relation of trait measures of BIS and BAS with different manifestations of state anger following interpersonal provocation. Particularly, a multi-methodological approach was chosen in which anger response was analyzed at different levels.

According to the Reinforcement Sensitivity Theory, which has been revised several times (RST; see for overview Corr, 2008) there are three major systems of emotion: the Behavioral Inhibition System (BIS), the Behavioral Approach System (BAS), and the Fight/Flight System (FFS). Originally (Gray, 1970), the FFS is presumed to be sensitive to unconditioned aversive stimuli, whilst the BIS and BAS are hypothesized to be sensitive to conditioned stimuli. The BIS represents an aversive system which is hypothesized to be sensitive to signals of punishment or frustrative non-reward. In contrast, the BAS is assumed to be sensitive to reward. While the initial conceptualization referred to separable subsystems, the current RST postulates a joint subsystem hypothesis (Corr, 2002). According to the joint subsystem hypothesis, BIS and BAS, respectively, will not only facilitate responses to aversive or appetitive stimuli, they will also antagonize responses to appetitive and aversive stimuli, respectively.

These systems were considered to underlie personality traits (Cloninger, 1988; Elliot & Thrash, 2010; Gray, 1990). Based on

* Corresponding author. Address: Department of Psychology, Goethe University Frankfurt, Grueneburgplatz 1 (PEG Building), D-60323 Frankfurt am Main, Germany. Tel.: +49 69 79835327.

E-mail address: tibubos@psych.uni-frankfurt.de (A.N. Tibubos).

Gray's initial RST, Carver and White (1994) developed a self-report measure for assessing threat and incentive sensitivities: the Behavioural Inhibition System/Behavioural Activation System (BIS/BAS) scales. This measure was used in the majority of studies dealing with BIS and BAS as subjective trait concepts (Torrubia, Ávila, & Caseras, 2008). With regard to emotions, BIS was presumed to be linked with negative affect, whereas BAS related traits, specifically BAS-Drive, BAS-Fun Seeking, and BAS-Reward Responsiveness, were associated with positive affect (Gray, 1994). The three BAS-facets comprise the desire for new rewards (Fun Seeking), the tendency to pursue desired goals (Drive), and the positive response to rewarding stimuli (Reward Responsiveness). A review of affect research referring to the RST largely supports these assumptions (Gomez & Cooper, 2008). In order to compare results of the current study with previous findings, we also use a German translation of Carver and White's BIS/BAS scales (Strobel, Beauducel, Debener, & Brocke, 2001) and consider the BIS and BAS resting upon the initial RST.

Traditionally, from the perspective of avoidance and approach motivational systems and suggested by circumplex models of affect (e.g. Russell, 1980; Watson et al., 1999), anger was solely linked to the BIS. However, recently a body of evidence (see Carver & Harmon-Jones, 2009) has corroborated the assumption that anger is an approach-related affect. That is, although anger is mostly experienced as a negative affect, it seems to be largely related to the approach motivational system. In terms of experimentally induced anger there is empirical support for these two opposing views. Previous studies with regard to the initial RST have investigated the relationship of BIS/BAS sensitivity and state anger (Carver, 2004; Cooper et al., 2008; Hewig et al., 2004; Wacker, Heldmann, & Stemmler, 2003; Wingrove & Bond, 1998) using imaginary tasks, movie scenes, or false feedback on task performance to elicit anger. Findings on the association of self-reported state anger with the BIS/BAS scales for instance, demonstrated positive correlations of anger responses with both, BIS and BAS-Reward Responsiveness (Carver, 2004; Wingrove & Bond, 1998) as well as BAS-Drive (Carver, 2004; Cooper et al., 2008; Wingrove & Bond, 1998). Moreover, self-reported inhibition of verbally aggressive behavior was found to be correlated positively with BIS and negatively with BAS in a direct imagery task for anger induction (Smits & De Boeck, 2007). Referring to Smits, De Boeck, and Vansteelandt (2004), acting out verbal aggression at behavioral level strongly depends on the ability to control emotional reactions. On the other hand, verbal responses after provocation represent an approach-oriented coping strategy (see Weber & Titzmann, 2003).

According to Corr (2002, 2008), frustration and angry feeling can arise if an expected rewarding stimulus is not as valuable or large as anticipated. Thus, the relation of state anger to BIS/BAS can be explained by the human experience of frustrative non-reward. In terms of the revised RST postulating joint subsystems, an interaction of both systems is assumed for frustrative non-reward. In contrast to the initial RST the state of frustrative non-reward is regarded as being linked with both systems, predominantly with BAS sensitivity (Corr, 2002). It has been hypothesized that frustrative non-reward should be highest in individuals with high scores in BAS as well as BIS. As the studies reported above did not refer to the revised RST, no interaction effects of BIS with BAS have been examined.

Therefore, the current study aims to examine anger response with regard to the revised RST following experimentally induced real-life provocation which has not been investigated up to now, since previous studies used imagination as induction method. For this purpose, we analyzed in this study multi-methodological data by assessing anger responses via self-report, cardiovascular param-

eters, and verbal responses after anger provocation. Following the revised RST as well as research results reported above, we hypothesize a positive relationship between self-reported state anger with BIS as well as the BAS facets Reward Responsiveness and Drive, respectively. In line with the joint subsystem hypothesis (Corr, 2008), we expected not only main effects of BIS and BAS facets, but also interaction effects between both systems. Especially the BAS-tendencies measuring Reward Responsiveness and Drive have been found to be linked to state anger in previous studies. Concerning verbal responses at the behavioral level, we predict similar to self-reported state anger an interaction of BIS and both BAS facets. However, we hypothesize a negative relation to BIS and a positive one to both BAS subscales in accordance to the findings of Smits and De Boeck (2007). As no previous study has directly investigated the association of BIS/BAS with cardiovascular correlates of responses in an anger-inducing situation, we refer to research dealing with stressful events regarded as challenging situations as proposed by Carver and Harmon-Jones (2009, p. 191). Hence, we assume to find a positive relation of cardiovascular correlates of state anger to BAS-Reward Responsiveness and BAS-Drive.

2. Method

2.1. Sample

One hundred female non-psychology students aged 18–49 ($M = 24.0$, $SD = 5.8$) participated in this study. Recruitment and procedure were conducted by two female investigators at the Goethe University Frankfurt. Participants were told that the experiment aimed at investigating subjective and physiological reactions while “processing tasks”. This cover story was necessary for successful anger induction. At the end of the experiment, participants were thoroughly debriefed. They were offered to take part in a lottery and received sweets for participation. Because of potentially confounding gender effects between participants and investigators, male students were not recruited. The same applied to subjects with hypertonia and cardioactive medication, as cardiac responses following anger provocation were assessed as dependent variables. For data analyses at trait-level, three participants were excluded because of insufficient data, one due to pregnancy revealed after completing the health questionnaire and two participants abandoned the experiment prematurely. Additionally, six further cases were not used when analyzing state anger as one participant became suspicious of the cover story and five participants indicated that they were feeling anxious after the anger treatment. The randomly created experimental group and control group differed neither in health data nor in self-report and cardiovascular data at baseline.

2.2. Dependent variables

2.2.1. Affectivity

The Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) is a mood scale to investigate the trait or state emotions of a person. The participants received the German state version of this schedule (Krohne, Egloff, Kohlmann, & Tausch, 1996), which consists of 20 emotional adjectives with responses on a five-point scale ranging from “absolutely not” to “absolutely”. Being particularly interested in feelings of state anger, a subscale recommended by Bongard, Pfeiffer, al'Absi, Hodapp, and Linnenkemper (1997) including anger-related negative items *upset*, *hostile*, and *irritable* was used with an internal consistency of $\alpha = .86$.

Download English Version:

<https://daneshyari.com/en/article/890332>

Download Persian Version:

<https://daneshyari.com/article/890332>

[Daneshyari.com](https://daneshyari.com)