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Effects of mood induction on consumers with vs. without compulsive buying propensity: An experimental study

Sinje Vogt [a,d,*], Antje Hunger [b], Tina Türpe [c], Reinhard Pietrowsky [d], Alexander L. Gerlach [e]

[a] Christoph-Dornier-Stiftung Münster, Schorlemerstraße 26, 48143 Münster, Germany
[b] Institute of Psychology, University of Münster, Fliednerstraße 21, 48149 Münster, Germany
[c] Mittelrhein-Klinik Bad Salzig, Salzbornstraße 14, 56154 Boppard-Bad Salzig, Germany
[d] Institute of Experimental Psychology, Heinrich-Heine University, Gebäude 23.03, Universitätsstraße 1, 40225 Düsseldorf, Germany
[e] Institute of Clinical Psychology and Psychotherapy, Department of Psychology, University of Cologne, Pohligstraße 1, 50969 Köln, Germany

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ABSTRACT

Compulsive buying (CB) is excessive and leads to impairment and distress. Several studies aimed to explore the phenomenology and antecedents of CB, especially affective states. However, these studies mostly used retrospective self-report and mostly focused on compulsive buyers only. Therefore, this study aims to directly compare consumers with CB propensity and controls on experimental proxies of buying behavior and to investigate 1) effects of neutral vs. negative mood inductions and 2) whether mood effects on buying behavior are specific to CB. Forty female consumers with CB propensity and 40 female controls were randomly assigned to a neutral or negative mood induction. Buying related behavior (likelihood to expose oneself to a shopping situation, urge and probability to buy, willingness to pay) was assessed. Consumers with CB propensity differed from controls in all buying behavior aspects except for willingness to pay. Neither main effects of mood nor group × mood interaction effects on buying behavior were found. However, consumers with CB propensity were emotionally more strongly affected by a negative mood induction. Although negative affect has previously been reported to precede buying episodes in CB, our findings do not indicate specific negative mood effects on buying, neither in CB nor in controls.

1. Introduction

Compulsive buying (CB) is a disorder characterized by excessive buying behavior or excessive cognitions about buying, which do not exclusively occur in episodes of (hypo)mania and which lead to marked personal distress and/or social, legal or financial problems (McElroy et al., 1994). Lifetime prevalence estimates of CB range from 5% to 7% in the US and Germany (Koran et al., 2006; Mueller et al., 2010b), indicating that this disorder is quite common, at least in western societies. Whereas earlier studies assumed that CB mainly occurs in females (Christenson et al., 1994; Schlosser et al., 1994), more recent studies reported comparable prevalence rates in men and women (Koran et al., 2006; Mueller et al., 2010b). Young adults are especially prone to CB, independent of their educational level (Koran et al., 2006; Mueller et al., 2010b). Findings regarding the association between income and CB are inconsistent: one study found no relation (Mueller et al., 2010b), some found a negative association between income and CB prevalence or severity (Black et al., 2001; Koran et al., 2006). Comorbidity with various axis I and II disorders is high, especially with depression and anxiety disorders (Black et al., 1998; Christenson et al., 1994; Mueller et al., 2010a). CB has neither been listed in the International Classification of Diseases (World Health Organization, 1992) nor in the fourth or fifth edition of the Diagnostic and Statistic Manual of Mental Disorders (American Psychiatric Association, 2000, 2013). Thus, the conceptualization and classification of this disorder are still controversial.

In order to gather a deeper understanding of CB and its phenomenology, previous investigations in this field relied predominantly on in-depth interviews (Christenson et al., 1994; McElroy et al., 1994) or on retrospective self-reports (Christenson et al., 1994; Faber and Christenson, 1996; Mueller et al., 2010b). However, key behavioral characteristics and triggers of CB (e.g. mood states or visual stimuli such as advertisements) have rarely been studied directly. Moreover, previous investigations focusing on key characteristics of the buying behavior itself did not encompass a comparison with healthy consumers (Christenson et al., 1994; Schlosser et al., 1994). Therefore, it is still unclear whether compulsive buyers actually differ from non-compulsive buyers with regard to symptoms and to their reactions to triggers of buying such as negative mood states.

To our knowledge, only one study compared compulsive and healthy consumers with regard to price and brand consciousness

* Correspondence address: Christoph-Dornier-Stiftung Münster, Schorlemerstraße 26, 48143 Münster, Germany. Tel.: +49 2514183440; fax: +49 2514183450.
E-mail address: sinje.vogt@uni-duesseldorf.de (S. Vogt).

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or self-perceived price knowledge (Kukar-Kinney et al., 2012). However, willingness to pay for consumer items might influence the amount spent. In three studies, the average amount spent during a buying episode varied between $89 and $110 (Christenson et al., 1994; Miltenberger et al., 2003; Schlosser et al., 1994). Since a control group was missing in those studies, we do not know, whether compulsive buyers spend more than healthy consumers during a CB episode. Raab et al. (2011) directly compared compulsive buyers and non-compulsive consumers in a buying simulation task and reported that compulsive buyers purchased significantly more products, spent a higher average amount of money and showed a higher average expenditure per purchased product. These findings suggest that compulsive buyers' financial problems may at least partially result from buying more expensive products and buying goods in higher quantity.

Based on in-depth interviews, internal stimuli, i.e. experiencing an urge or need to buy, were found to be a key characteristic and antecedent of CB behavior and thoughts (Christenson et al., 1994) and have been included in the preliminary research criteria for CB (McElroy et al., 1994). The urge to buy is often experienced as very strong, hard to control and irresistible (Christenson et al., 1994; McElroy et al., 1994). Compulsive buyers report that 74.3% of the time they felt an urge to buy, the urge results in a purchase (Christenson et al., 1994). Whether compulsive buyers actually differ from healthy consumers with respect to urge severity, however, is unknown. Similarly, it is unclear whether mood states actually trigger the urge to buy, which would have implications for treatment.

Several environmental stimuli trigger CB behavior, such as being in a store, shopping catalogs or home shopping television programs (Christenson et al., 1994; Miltenberger et al., 2003; Schlosser et al., 1994). Shopping web sites may also function as triggers for CB (Kellett and Bolton, 2009). Whether compulsive buyers are more likely to expose themselves to possible external buying triggers than controls, however, is unknown.

Negative emotions are often reported as internal antecedents of CB (Faber and Christenson, 1996). In consequence, it has been suggested that CB helps to regulate negative mood states (Kellett and Bolton, 2009). According to paper–pencil self-monitoring forms or ecological momentary assessment, compulsive buyers often report negative emotions such as sadness, loneliness or frustration before buying (Christenson et al., 1994; Faber and Christenson, 1996). Furthermore, these emotions dissolve during or shortly after buying (Christenson et al., 1994; Miltenberger et al., 2003; Mueller et al., 2012; Schlosser et al., 1994). Similarly, compulsive buyers report a decrease in positive affect prior to a buying binge (Mueller et al., 2012). However, in most studies investigating the role of negative mood in CB, a comparison with a control group was missing leaving room for speculation whether mood influences on buying behavior are specific to compulsive buyers or are general to the population. Furthermore, the aspect of negative mood in CB has not been studied experimentally and it is therefore not yet justified to assume a causal interaction of mood and buying. Addressing this aspect, Kyrios et al. (2013) have been the first to directly investigate the role of negative mood in CB. Using a mood induction procedure, they studied the impact of neutral vs. negative mood in an experiment on information processing in compulsive buyers and controls. They hypothesized compulsive buyers to have a stronger sematic relationship between emotional concepts and consumer items than controls. Furthermore, compulsive buyers under negative mood were assumed to make fewer errors in a recognition task of consumer items than controls. Surprisingly, they found a worse recognition performance for consumer items in CB sufferers when in negative mood compared to controls. More research is consequently needed to understand the role of negative affect in CB, since the effects of induced negative mood on *buying behavior* have not yet been studied.

Thus, the aims of this study are 1) to directly compare consumers with CB propensity and healthy control participants with regard to several proxies for buying behavior, 2) to investigate the effects of a neutral vs. a negative mood induction procedure on buying behavior and 3) to explore, whether mood effects on these variables are specific to consumers with CB propensity. More specifically, we investigated 1) whether consumers with CB propensity are more likely than controls to expose themselves to external buying triggers, 2) whether consumers with CB propensity and controls differ in their general and product-specific urges to buy as well as in their likelihood to buy and their willingness to pay more money for given products and 3) whether these aspects of buying behavior are influenced by neutral vs. negative mood inductions.

2. Methods

2.1. Participants

We used an online screening questionnaire, to recruit participants for the subsequent main study, which was advertised on university boards and in student mailing lists. 522 participants filled out the questionnaire. Those who, according to their self-report, had recently been diagnosed with mania, hypomania or bipolar disorder were excluded ($n=3$). Based on a cut-off recommended by the questionnaires' authors, participants scoring ≥ 35 on the Compulsive Buying Measurement Scale (CBMS; Raab et al., 2005) were classified as consumers with CB propensity ($n=40$; $M=41.83$, S.D.$=4.46$). Psychopathology research using analog samples clearly has some limitations (e.g. when validating treatment programs). However, given that CB symptoms likely are a dimensional phenomenon (Raab et al., 2005), ranging from absent to severe, analog samples may provide relevant information linking subclinical to clinically severe phenomenology and allowing to, for example, research the mechanisms relevant for the development of CB (compare Abramowitz et al. (2014)). Forty control participants were randomly chosen from a subset of the screening sample, identified by scores ≤ 30 ($M=22.40$, S.D.$=3.92$). Since the product images used in this study were representative for product categories only women and not men are usually interested in (Schlosser et al., 1994), only women were included in the study.

2.2. Materials and measures

All measures included in the online screening and in the subsequent study (except the stress induction procedure) were presented using the software EFS 7.0 (Globalpark AG) and an internet browser.

2.2.1. Mood induction procedure

Since CB is known to be associated with low self-esteem (O'Guinn and Faber, 1989), we aimed to use a mood induction with impact on beliefs about one's abilities. A fake intelligence test with false feedback was used for mood induction (Zeng, 2008). To induce neutral vs. negative mood, two modifications of the matrices of the Standard and Advanced Progressive Matrices by Raven were used. In the negative mood condition, the majority of the 16 items (from the Advanced Progressive Matrices) were unsolvable and participants received the standardized negative feedback that in comparison to a pretended age norm their cognitive age equals that of a 67-year old. In the neutral mood condition, all 16 items (from Standard Progressive Matrices) remained solvable. After completion of the tasks, the standardized positive–neutral verbal and graphical feedback was given, that their cognitive age equals that of a 21-year old in consideration of a pretended age norm.

2.2.2. Questionnaires

The *Compulsive Buying Measurement Scale* (CBMS; Raab et al., 2005), used in the pre-study online screening is an adapted version of the Canadian Compulsive Buying Measurement Scale (Valence et al., 1988). The CBMS is a screening instrument that measures the propensity for CB on 16 items with four-point Likert-type rating scales (1=*I don't agree*, 4=*I totally agree*). In our total sample, Cronbach's α was 0.92. Significant correlations with other CB measures indicate good construct validity (Mueller et al., 2010b; Meiners et al., 2009). Cut-off scores of 35 and 45 have been suggested to classify consumers as compensatory and addictive, respectively.

The *German Compulsive Buying Scale* (CBS; original: Faber and O'Guinn, 1992; German: Mueller et al., 2010b) used in the pre-study online screening assesses CB behavior. It consists of seven items with five-point rating scales (1=*very often*, 5=*never*, resp. 1=*strongly agree*, 5=*strongly disagree*) and shows a satisfying internal consistency in our total sample ($\alpha=0.73$). Significant correlations between