# How to treat the troll? An empirical analysis of counterproductive online behavior, personality traits and organizational behavior

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## Structured Abstract

**Purpose** – Online environments, such as social networks and online forums, offer new possibilities and a wide variety of identity and social relationship management for the users. However, besides functional contributions like mutual support and easy ways of establishing contacts there are critical perspectives on computer-mediated communication (CMC) regarding detrimental behavior like provoking, overbearing, attacking and insulting other users, especially when anonymity is high. Recent research has shown that these kinds of online behavior are associated with personality traits like sadism, machiavellianism, narcissism, and psychopathy (Buckels, Trapnell & Paulhus, 2014) and can lead to severe trouble, negative affect and dysfunction in online communities (Cheng, Danescu-Niculescu-Mitzil & Leskovec, 2015). As such, in the public perception "trolls" have become a synonym for counterproductive and dysfunctional behavior (Bishop, 2014a, 2014b). Our research aim was to shed more light on trolling and counterproductive online behavior theoretically as well as empirically. In other words: We wanted to know who is behind the troll? How can he or she be characterized in terms of personality traits and what can be expected from trolls when it comes to the organizational context and job performance?

**Design/methodology/approach** – In a first step, we formulated a theoretical framework on counterproductive online behavior. On that ground, two online surveys (N = 122; N = 133) were conducted. The first study's goal was to develop and validate a questionnaire on counterproductive online behavior. The second study analyzed counterproductive online behavior and tested for possible interrelations to personality traits and work-related outcomes.

**Originality/value** – Using explanatory factor analyses we developed a 40-item questionnaire with two higher dimensions: Constructiveness and destructiveness. 15 subscales focus on different communication styles and trolling strategies. The second study tested the two dimensions of counterproductive online behavior on work-related outcomes such as work engagement, task-related performance and interpersonal

facilitation. As was expected, destructiveness revealed significant negative correlations with all work-related outcomes as well as deviant work behavior. Constructiveness, in contrast, showed positive associations with interpersonal facilitation.

**Practical implications** – So far, research on trolling and counterproductive online behavior has been limited to theoretical or anecdotal approaches in most cases (cf. Bishop, 2013a, 2013b). Our study aimed at a more systematic examination of this CMCspecific phenomenon. However, our study design, acquisition of the samples and the formulation of the questionnaire suggest that the results are valid indeed. On that note, our research is a first step for a deeper understanding on people showing counterproductive online behavior.

**Keywords** – trolling, counterproductive online behavior, dark triad, job deviance, work engagement

**Paper type** – Academic Research Paper

## 1 Introduction

The Internet offers many different opportunities for group development and fosters communication beyond national borders. Older generations perceived the Internet as innovative and future-oriented but for the younger generations the Internet is a fundamental part of everyday life and it´s not possible to imagine one without the other (Schulmeister, 2009). Actually, online interaction comprises very different audio-visual possibilities and characterizes the leisure-behavior of the current generations. The aims of these interactions are to preserve friendships and to communicate with friends. This corresponds with regular socialization processes of children and juveniles, who use online communication for more effective identity and relationship management (Schmidt, Paus-Hasenbrink & Hasenbrink, 2009). As implied by the notion of ‚Digital Natives‘, everyday usage of interactive online media has a significant influence on society as a whole, but also on personality development (Schulmeister, 2009).

However, there are also critical aspects of online communication. Especially possibilities of largely anonymous usage are seen to be responsible for the rising account of personal assaults and hostility in communities and social networks (Buckels, Trapnell & Paulhus, 2014). These counterproductive online behaviors are mostly known as trolling, flaming, or hating and they are just common synonyms for the variety of negative behavior present throughout the Internet, which are responsible for substantial disruption in the online community (Cheng, Danescu-Niculescu-Mitzil & Leskovec, 2015).

Online communication enables many opportunities to indulge in antisocial behaviors anonymously which cannot be shown in real-life without getting into trouble. Therefore, it is necessary to analyze the negative as well as possible positive impacts of such behaviors, because online behavior affects real life and vice versa. Especially regarding the workplace, further research is required to investigate not only the risks but also potential benefits and resources of counterproductive online-behavior, e.g., in terms of a 'social corrective'. Thus our research aims at the development of a suitable instrument to survey counterproductive online-behavior to assess the potentials, risks and resources of these behaviors concerning everyday life in general and the workplace in particular.

## 2   Computer-mediated communication

Computer-mediated communication (CMC) or online communication allows for social exchange with other persons, without being obliged to reveal one's own identity. The interacting partners enjoy a relative amount of anonymity, depending on the choice of medium, nickname, profile picture or the mode of expression. This perceived anonymity might foster deindividuation and depersonalization of the interacting persons. Deindividuation effects the reduction of self-awareness, which provides the base for antisocial behavior, whereas depersonalization describes the loss of identity and reality caused by anonymity (Postmes, Spears & Lea, 2002). On that note, Spears, Postmes, Lea and Wolbert (2002) point out that even distinctly antisocial behaviors like insulting other users might be accepted as socially adequate and in conformance with group norms. What might seem aggressive and antisocial for the out-group may be absolutely acceptable for the in-group and may be interpreted as ironic or playful (Spears et al., 2002).

## 3   Counterproductive online behavior – A definition

In scientific research the term trolling has been adopted as a synonym for antisocial behavior. Generally trolling is described as posting provocative and inflammatory comments, messages, pictures or videos (Baker, 2001; Brandel, 2007; Phillips, 2013). However, this common view does not account for the multifaceted nature of counterproductive behavior, which includes not only antisocial behaviors like provocations or insults, but also passive and prosocial expressions in different contexts.

At a behavioral level Hardaker (2013) describes trolling as intentional use of impoliteness, aggression, deception and/or manipulation in CMC to foster an atmosphere beneficial for conflicts just for the purpose to entertain the troll. The recipient may perceive the behavior of the transmitter as covert or overt trolling. Covert strategies often include manipulating or flattering tactics to adopt an identity, which

hides the real intentions of the transmitter. Therefore, the transmitter uses specific strategies which allow more defensive interpretations. Nevertheless, the transmitter may use overt strategies and adopt an identity clearly showing his intention to troll the interaction by aggressive and provocative behavior. More specific, Hardaker (2013) distinguishes between six different strategies including disgressing, (hypo) criticizing, antipathizing, endangering, shocking and aggressing, whereby disgressing can be rated as a covert strategy and aggressing as the most overt.

More detailed, Bishop (2014a, 2014b) focusses on 12 typical behavioral categories aimed at preventing or disturbing constructive interaction in online communities. These categories can be separated into four groups: haters (destroying and escalating behavior without expecting a serious advantage for themselves), lolcows (seeking for attention by continuous provocation), bzzzzters (being motivated by the desire of social interaction independent of a deeper sense or a specific topic) and eyeballs (taking an observant position in online communities and waiting for the right moment to post provocative content). Follwing Bishop, these different types of online behaviors may have counterproductive as well as productive effects on online communities. Partly, presented online behaviors represent extreme and rare forms, so that they are not easily assessed at all. Whether behavior is rated constructive or destructive also depends on the culture within the online community. Therefore, we suggest the following definition as a basis for standardized assessment of counterproductive online behavior: Counterproductive online behaviors within CMC include all behaviors that do not serve the primary goal of the  online community and/or have a detrimental effect on the community. However, this might include behaviors which are not outright hostile and have a well-meaning intention.

## 4   Destructive and constructive effects
The majority of scientific research on counterproductive online behavior focuses solely on theoretical derivations or anecdotal approaches (c.f. Bishop, 2013a, 2013b).

Buckels, Trapnell & Paulhus (2014) developed the Global Assessment of Internet Trolling (GAIT) and were the first to test counterproductive online behavior quantitatively. However, the GAIT encompasses only a part of counterproductive behaviors. Their results show that these kinds of online behavior are associated with personality traits like sadism, machiavellism, narcissism, and psychopathy. In addition, negative correlations with conscientiousness and agreeableness where identified. Thus, users showing counterproductive online behavior tend to be unreliable, negligent and less disciplined. They do not care about the wellbeing of other users and focus primarily on their own wellbeing and entertainment.

Moreover, regarding the three characteristics of the Dark Triad, Buckels, Jones and Paulhus (2013) underpin the connection between sadism and a lower level of empathy. They point out that people who tend to bear sadistic tendencies enjoy hurting other individuals even without any provocation. For the workplace context this means that employees who show destructive counterproductive online behaviors might act unpredictable and harass their colleagues for example by irrational sanctions or bullying. For online user with narcissistic tendencies, this might lead to less loyalty regarding supervisors and colleagues as well as a sense of superiority. Furthermore, machiavellians ignore social norms and are unable to build up stable relationships. They manipulate their work environment and tend to show deviant and unethical behavior. People with psychopathic traits also tend to show deviant or anti-social behaviors and also a low performance at work (O'Boyle, Forsyth, Banks & McDaniel, 2012).

Nevertheless, there also constructive effects of counterproductive online behaviors like entertainment and enhancing group-cohesion by out-group discrimination. These types of behaviors don´t serve the main topic of the community but also reduce the negative effects of destructive behavior like insults, flames and harassments. Independent of its constructive or destructive orientation, counterproductive online behavior may have positive influences on self-esteem and self-efficacy. For example, counterproductive online-behaviors help to cope with mental stress emotionally in the short term (Chiu, Huang, Cheng & Sun, 2015). Also, variation of identities offers an opportunity to test different role models and types of behavior. Mikal, Rice, Abeyta and Devilbiss (2013) argue that in times of personal or family distress it helps to adopt different role models so that changes and critical situation can be encountered in a flexible manner. People who are able to adopt different role models are more satisfied than individuals with less identity-defining role models (McKenna & Seidman, 2005). Thus, CMC provides an environment that might help to develop stable identity (Wettstein, 2012).

Counterproductive online behaviors enable developing a feeling of group cohesion and belonging because they strengthen existing in-groups but also the development of new alliances (Hopkinson, 2013). Bannon, McGlynn, McKenzie and Quayle (2015) point out that conflicts between in-groups and out-groups are in some way accepted and playful so teasing each other is accepted behavior and might raise the attraction of one's own ingroup. Furthermore, feelings of group cohesion and belonging foster social support (Hopkinson, 2013).

So far, research on counterproductive online behaviors is scarce, especially regarding the standardized assessment of such behaviors. Therefore, we aim to develop an instrument to assess counterproductive online behaviors and to examine their effects in a standardized and reproducible way.

## 5 Method

### 5.1 Procedure and results of the preliminary study

On the ground of the formulated theoretical framework we developed the Questionnaire on Counterproductive Online Behavior (QOCB). To validate the questionnaire, we first conducted an online survey (N = 122). The sample consisted of 55 women and 67 men with an average age of 29.09 years (SD = 8.40) who spend an average of 5.63 hours (SD = 3.43) daily in the internet. The whole sample was acquired via online forums. A number of questions ('fake scales') were placed at the beginning of the questionnaire to test for truthful response.

Using explanatory factor analyses we developed a 40-item questionnaire with two higher dimensions: Destructiveness ($\alpha$ = .95) consisting of 27 items, and constructiveness ($\alpha$ = .82) consisting of 13 items. Both dimensions, destructiveness and constructiveness explain a total variance of 57.31%. The 40 items in total can be devided into 15 subscales focused on different communication styles and trolling strategies which are presented in Table 1. The 15 subscales of the QOCB consist of at least two to four items.

### 5.2 Procedure and measurement of the main study

For further research we verified the criterion validity of the QOCB with another online sample of N = 133 participants consisting of 75 women and 58 men. The mean age of the participants was 25.85 years (SD = 7.23) and the average time spent by participants on the internet was 4.86 hours (SD = 2.90) daily. The majority of the sample pursuited an academic education (36.1%).

The QOCB was used to assess the two dimensions of counterproductive online behavior. Destructiveness and constructiveness were rated on a 5-point Likert-Scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). The dimension destructiveness included the subscales creativity (e.g., "If I want to make fun of someone, I create my own content and post them on the Internet"), spoofing (e.g., "Stupid and pointless comments are 'my thing'"), criticism (e.g., "There is nothing better than to destroy the worldviews of other users"), provocation (e.g., "I like to provoke other Internet users in online communities"), shocking (e.g., "Shocking other internet users entertains me"), hostility (e.g., "I insult other users just for fun"),

territoriality (e.g., "Newbies have to earn my respect hardly"), revenge (e.g., "Internet users who insult me must expect my vengeance"), deception (e.g., "I like to adopt different identities on the internet") and exploitation (e.g., "Exploiting other Internet users is perfectly legitimate"). The dimensions constructiveness included the subscales defence (e.g., "I defend other Internet users when they are attacked"), reporting (e.g., "I frequently report inappropriate content on the Internet to the admins"), trust (e.g., "Earning the trust of other Internet users is easy for me"), support (e.g., "I share my life experience with other users") and attention (e.g., "If I feel bad I post my feelings on the Internet"). The internal consistency of each subscale is listed in Table 1.

**Table 1. Scales of the QOCB: Number of items, means (M), standard deviation (SD), internal consistency (α) and discriminatory power (rit)**

| Scales | Items | M | SD | α | rit |
|---|---|---|---|---|---|
| Creativity | 2 | 1.44 | .84 | .88 | .78 |
| Spoofing | 4 | 2.02 | 1.06 | .85 | .66–.74 |
| Criticism | 4 | 1.82 | .78 | .71 | .44–.55 |
| Provocation | 2 | 1.72 | .103 | .82 | .70 |
| Shocking | 3 | 1.65 | .86 | .82 | .65–.69 |
| Hostility | 3 | 1.66 | .96 | .84 | .69–.74 |
| Territoriality | 3 | 1.76 | .96 | .81 | .63–.72 |
| Revenge | 2 | 2.23 | .95 | .75 | .60 |
| Deception | 2 | 1.77 | 1.05 | .69 | .53 |
| Exploitation | 2 | 1.50 | .82 | .67 | .51 |
| Defence | 2 | 2.94 | 1.07 | .81 | .67 |
| Reporting | 2 | 2.31 | 1.06 | .71 | .55 |
| Trust | 2 | 2.70 | 1.18 | .80 | .61 |
| Support | 4 | 2.77 | .94 | .80 | .57–.67 |
| Attention | 3 | 1.67 | .70 | .68 | .46–.57 |

Notes. N = 122.
Scales are rated on a 5-point Likert-Scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Beside the QOCB we included a number of other personality-focused and job-related scales to test for possible interrelations. To assess the Dark Triad of negative personality traits, we used a scale developed by Küfner and colleagues (2015) consisting of 12 items divided into the three scales psychopathy (α = .72), machiavellianism (α = .78) an narcissism (α = .85). To represent the five dimensions of personality we used the 10 Item Big Five Inventory (Rammstedt, Kemper, Klein, Beierlein & Kovalea, 2013). We also included the German version of the Interpersonal Reactivity Index (Paulus,

2009a) to assess perspective taking (α = .71), fantasy (α = .74), empathic concern (α = .71) and personal distress (α = .66). To measure job-performance we included the three 5-item scales: Task-related performance (α = .90), work-engagement (α = .84) and interpersonal relief (α = .89) developed by Ferris, Witt and Hochwarter (2001). For the assessment of deviance we used the 19-item Workplace Deviance Scale (Bennent & Robinson, 2000) comprising of the subscales interpersonal workplace deviance (α = .78) and organizational workplace deviance (α = .81).

To illustrate the frequency of internet activity we included several questions to assess the daily number of comments, the time spent on the internet as well as the number of self-created and shared content.

## 6   Results

Regarding the frequency of internet activities, we found significant correlations between both, destructiveness (r = .28**) and constructiveness (r = .37***) and the number of daily comments. Furthermore, only significant correlations between constructiveness and the time (r = .29**), spent on the internet, the number self-created (r = .28**) and shared (r = .34***) content were identified.

To underpin the postulated relations and to control the criterion validity of the QOCB a multiple regression analysis was conducted, revealing significant predictor functions for the two dimensions destructiveness and constructiveness. Controlling the predicting value of destructiveness and constructiveness for the Dark Triad, we identified destructiveness to be a unique predictor for narcissism (β = .25; p = .008), machiavellianism (β = .63***) and psychopathy (β = .57***).

Destructiveness was also identified to be a significant predictor for conscientiousness (β = -.26**) and agreeableness (β = -.31**).

Controlling the different facets of empathy for destructiveness and constructiveness, we identified destructiveness to be a unique predictor for perspective taking (β = -.19*). Constructiveness was identified to be a unique predictor for fantasy (β = .25*).

The results of the multiple regressions analysis pointed out, that destructiveness significantly predicted task-related performance (β = -.31***). Furthermore, destructiveness was identified to be a unique predictor for work engagement (β = -.38***). Concerning interpersonal relief, both predictors destructiveness (β = -.38***) and constructiveness (β = .20*) revealed significant results. Finally, destructiveness was identified to predict workplace deviance on a .001-level (β = .43***).

## 7 Discussion

Our research supports the postulated relations and underpins the bivariate dimensional structure of counterproductive online behavior. The significant relation between the different types of the frequencies of different internet activity showed that user who preferred counterproductive online behavior with constructive effects on the online community aimed at long-term and mutual interaction. In contrast, those users who preferred destructive effects on the online community since destructiveness revealed significant correlations with the daily number of comments only. Users who showed counterproductive online behaviors with destructive effects on online communities posted content that was not aimed at positive exchange but at provocation, insults or harassment. The further investigation pointed out that regarding the characteristics of the Dark Triad, only destructiveness predicted narcissism, machiavellianism and psychopathy. Positive expressions of destructiveness therefore indicated increased expressions of the Dark Triad, so these findings extend the results of Buckels et al. (2014) and confirm the assumption that the GAIT is not a sufficient instrument to capture the diversity of counterproductive behaviors. In addition, the results concerning the relation between our instrument and the Big Five point out that the relations postulated by Buckels et al. (2014) are only transferable on destructiveness. In contrast, constructiveness did explain additional variance. These results argue for the postulated multidimensionality of counterproductive online behavior. Regarding the relations between QOCB and empathy, the differences between destructiveness and constructiveness are highlighted again. The negative contribution of destructiveness concerning perspective taking and the positive relations between constructiveness and fantasy point out that these two scales are distinct indeed. Moreover, regarding empathic concern, the results show that users who prefer counterproductive behavior with destructive effects on the online community exhibit less

empathic concern than those users, who tend to aim at constructive effects. These results support the postulated theoretical foundation and allow to assume serious effects for real life and especially working life: For example, higher scores on destructiveness led to less task-related performance, work-engagement, interpersonal relief and more workplace deviance. From a statistical perspective, the QOCB's scales and the included subscales exhibit sufficient to good internal consistencies, construct validity. The presented results verified the postulated relations so that also criterion validity was approved. As such, the QOCB serves as a proper base for further research, which is necessary to underpin the proposed assumptions like possible effects on identity development or long-term effects. A far more important finding, however, is the fact that counterproductive online behaviors does not occur isolated and independent but rather shows a broad variation, even between the two dimensions

constructiveness and destructiveness. It would be way to early to assume that different types of users exist, which show definable expressions of counterproductive online behavior but the relevance for further research is remarkable.

The QOCB does not claim completeness and requires further development but it fulfills the role of a valid and reliable instrument that includes and subsumes the state of the art of counterproductive online behavior. Furthermore, it is the first and actual only instrument that allows a differentiated consideration of the variety of constructive and destructive online behaviors.

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