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# Prediction of Cyber Bullying through Components of Adversity Quotient

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The main purpose of this study was to predict cyber bullying (email and online) through the components of the adversity quotient (perceived control, origin and ownership, reach and endurance). The population in this study comprised all employees of a big public organization in Tehran in winter 2015 (1393). Among them, 271 persons were selected on the basis of convenience sampling method. Data were collected through the Adversity Quotient Profile (PEAK Learning Inc., 2008) and the Cyber Bullying Questionnaire (Savage, 2012), and analysed using Pearson correlation coefficient and multiple regression analysis. The results indicated significant negative relationships between all the components of the Adversity Quotient (perceived control, origin and ownership, reach and endurance) with Cyber Bullying ($p<.05$). Furthermore, the results of multiple regression analysis showed that the components of perceived control ($F=48.2$, $P<.05$) and reach ($F=28.2$, $p<.01$) could significantly predict cyber bullying.

***Keywords:*** adversity quotient, cyber bullying, public sector

One of the organizational challenges in today's world comprises the behaviours against organizational objectives, such as bullying, aggression, hostility, sabotage, theft, violence and

withdrawal behaviours. Industrial-organizational psychology studies try to predict the people who would be involved in such kinds of behaviours (Shoss, Eisenberger, Restubog & Zagenczyk, 2013). These behaviours are done deliberately by members of the staff and harm the organization and people within it (Fox & Spector, 2005; Spector, 2011; Spector, Bauer & Fox, 2010; Spector, Fox, Penney, Bruursema & Kessler, 2006). Olweus (1999; quoted by Tokunaga, 2010) has defined bullying as a subset of aggressive behaviours characterized by the three criteria of intentionality (doing something purposefully), consistency, and power imbalance between the perpetrators and the victims. There are different types of bullying: Physical Bullying refers to behaviours like punching, kicking and the destruction of public facilities; Verbal Bullying refers to behaviours such as ridiculing, humiliating and threatening (Olweus, 1991; quoted by Dwyer, 2012); and Relational Bullying includes behaviours such as backbiting, spreading rumours, social exclusion and other behaviours detrimental to relationships (Scheithauer, Hayer, Petermann & Jugert, 2006). These days, a new type of bullying—called cyber bullying—has emerged in which bullying is carried out through modern electronic means such as the internet, email, and chat (Lee, 2007). Cyber bullying involves the use of information, communication devices, and services to bully, harass, or intimidate individuals or groups (Bryce, 2008). Empirical evidence shows that cyber bullying emerged in the 1990s or at the beginning of the new millennium, and is widely used in response to the growing use of technology (Patchin & Hinduja, 2006; Yardi & Bruckman, 2011). Cyber bullying includes many different kinds of behaviours and can be done thorough various electronic devices. This means that cyber bullying can either be

done directly (i.e. online threatening) or indirectly (i.e. spreading rumours online) (Chibbaro, 2007). In recent years, cyber bullying has been introduced as a new dimension of deviant behaviours (Bringué & Sabadá, 2011; Paul, Smith & Blumberg, 2012; Schenk & Fremouw, 2012; Smith, 2009; Vandebosch, Beirens, D'Haese, Wegge & Pabian, 2012; quoted by Del Rey, Elipe & Ortega-Ruiz, 2012). Therefore, Cyber bullying is a form of cyber aggression constantly carried out with purpose and enthusiasm through computers, mobile phones and other electronic devices (Hinduja & Patchin, 2010) to the detriment of a person or a group of persons, and reduces the power imbalance in interpersonal relationships (Dempsey, Sulkowski & Storch, 2011). In fact, in addition to the three abovementioned criteria of bullying (Olweus, 1991; quoted by Dwyer, 2012), cyber bullying is characterized by two other criteria: of anonymity and communication with a wide range of potential audiences (Nocentini, Calmaestra, Schultze-Krumbholz, Scheithauer, Ortega, et al. 2010; Spears, Slee, Owens & Johnson, 2009).

Willard (2007) has identified seven types of cyber bullying including flaming (sending vulgar, violent and brazen messages about someone to an online group), online harassment (constantly sending rude, insulting and humiliating messages about someone to others through e-mail), denigration (sending wrong and harmful massages about someone to others), impersonation (hiding one's identity in online communication to threaten others), trickery (sending private, emotional or embarrassing information about someone to others), exclusion (intentionally excluding someone from an online group) and cyber stalking (constantly sending massages in which the contextual factors such as job stress and organizational fit may

cause problems for people). However, the abilities of people to manage their daily problems differ; hence, people who cannot overcome their problems become easily distracted and retreat, whereas people who overcome their problems can manage their life and future. In this respect, the concept of Adversity Quotient (AQ) was introduced as a personality trait (Stoltz, 2000). AQ has been defined as the ways in which people respond to different kinds of hardship or react to the world around them (Stoltz & Weihenmayer, 2010; quoted by Cornista & Macasaet, 2013). It has also been defined as people's ability to manage their everyday problems (Stoltz, 2000). AQ comprises four components: of perceived control (restraint), origin and ownership (accountability), reach, and endurance (stability) (Canivel, 2010). Perceived control means an individual's perception of how much control s/he can exert over future events. Perceived control is determined by flexibility, health and tenacity (Stoltz, 2011). Origin and ownership indicate the extent to which an individual tries to improve the situation regardless of his/her official responsibilities. Origin and ownership are determined by accountability, responsibility, activity and enthusiasm (Stoltz, 2011). Reach—determined by stress tolerance and efforts to be collectively effective (Stoltz, 2011)—signifies the extent to which an individual understands and overcomes difficulties. Endurance (stability) deals with the amount of time an individual for which can tolerate difficult situations. Endurance is determined by hopefulness, optimism and perseverance (Stoltz, 2011).

The reasons how the adversity quotient might control cyber bullying can be explained by the 'frustration-aggression' model (Fox & Spector, 1999). Based on this model, cognitive-personality characteristics would affect the process in which

frustration (job obstacles) ultimately leads to CWBs (Cyber Bullying). One of these cognitive-personality characteristics is control over environmental events. Based on the conceptual literature of the adversity quotient, control over environmental events is higher in people with a higher adversity quotient. Therefore, it can be concluded that employees with a higher adversity quotient show less cyber bullying because of their belief/ability to be able to influence environmental events. Moreover, based on reciprocal determinism, individual differences (perceptions, beliefs and expectations), stressful environmental factors, and people's behaviours are reciprocally related to each other (Motl, 2007). Therefore, thanks to individual differences (low self-awareness, low tolerance, too much expectation from the organization, and low control), people are affected by stressful environmental factors (conflicts with colleagues and supervisors, injustice, etc.), and consequently commit cyber bullying.

According to researches, people with high AQ believe that stressful environmental factors (injustice, tension, interpersonal conflicts, etc.) are common realities of life and opportunities for development; therefore, they are less prone to committing cyber bullying (Major Global Technology, 2005; Hui Dai, 2009). AQ is very important because it is mostly applicable in the occurrence of organizational changes. When organizational changes occur, people become confused, and resist the changing conditions; however, those with high AQ quickly adapt themselves to new conditions and procedures, become less confused, and collaborate with their managers (Phoolka & Kaur, 2012). In studies on Iranian organizational deviant behaviours, the role of technology in the development of these behaviours has not yet been considered. Therefore, information related to

cyber bullying in the workplace or any official statistical analysis about cyber bullying facts are not available in Iran. Nevertheless, neither the financial nor psychological consequences of cyber bullying on the staff can be ignored. For this reason, this study aimed to introduce the phenomenon of cyber bullying to help researchers derive a better theoretical foundation for the conduct of future studies in the fields of deviant cyber behaviour or cyber criminology. Moreover, the findings of this study provided practical approaches to prevent deviant cyber behaviours in Iranian organizations by increasing the AQ of people. Therefore, the main purpose of the present study was to predict cyber bullying through the adversity quotient. It must be noted that this investigation was carried out for the first time in Iran; therefore, its findings could provide practical approaches for the development of the field of industrial-organizational psychology and practical objectives for Iranian organizational managers.

## Method

The present study is considered a correlation study. The statistical population of this research consisted of all the employees of a big public organization in Tehran. From the abovementioned statistical population (864 persons), based on a sample size table of Mitchell & Julie, (2007, p. 235), 265 persons were suitable for the research, but for the control of the response rate, the sample size was increased to 300. Finally, 271 questionnaires were filled and used for analysis. The selection of the research sample was carried out by convenience sampling method.

**Adversity Quotient (AQ)**

To measure AQ, the 14-item Adversity Quotient Profile (AQP) (PEAK Learning Inc., 2008; quoted by Shariatmadari, 2011) was used. The AQP is answered and scored based on a five-point Likert scale ranging from 1 (not at all) to 5 (completely). Each item comprises four sub-items, each measuring one of the subscales of perceived control, origin and ownership, reach and endurance. Thus, the possible range of score for each subscale is 14 to 70. In the AQP, a higher score in each subscale indicates a higher tendency towards it. Cronbach's alpha for the total questionnaire (.91) and its subscales (perceived control [.82], origin and ownership [.83], reach [.84] and endurance [.80]) have been reported by PEAK Learning Inc. (2008; quoted by Shariatmadari, 2011). In repeated independent studies done by the Educational Testing Services (ETS), the high reliability of the AQP and its subscales has been confirmed (quoted by Shariatmadari, 2011). Internal consistencies of the AQP subscales (perceived control (.727), origin and ownership (.723), reach (.760), and endurance (.781) have also been reported by PEAK Learning Inc. (2009; quoted by Shariatmadari, 2011). In the present study, the Cronbach's alphas obtained for the subscales of perceived control, origin and ownership, reach and endurance were .77, .79, .77 and .75 respectively.

**Cyber Bullying**

In order to measure cyber bullying, Savage's 23-item questionnaire (2012)—with two common subscales of email bullying (8 items) and online bullying (15 items)—was used. This questionnaire was translated into Persian for the first time

in the current research by the use of the translate-back-translate method, and based on a six-scoring scale (never=1 to always=6). Savage (2012) used test retest reliability with a 10-day interval to test the reliability of this questionnaire and obtained Cronbach's alpha .94 for t1(first time) and .86 for t2 (second time) and reported correlation coefficient of .88. He also reported Cronbach's alpha for email bullying at .92, .95 and .96 and for online bullying at .93, 8 and .87. The results of the exploratory factor analysis on this questionnaire in the current study for online cyber bulling (KMO=.943, eigenvalue=9.657, variance explained=68.981 per cent) with 14 items showed all items pertaining to online cyber bulling, and the results of the exploratory factor analysis for email cyber bulling (KMO=.925, eigenvalue=6.246, variance explained=69.405 per cent) with nine items showed all items pertaining to email cyber bulling. In the current study, the Cronbach's alpha obtained for email and online bullying were .97 and .94 respectively.

## Method

Members of a sample group responded to the questionnaire at their workplaces over 20–25 minutes in the form of a self-report. Data analysis was performed using descriptive (means, SD and standard error) and inferential statistics. For the inferential analysis, Pearson's correlation coefficient and stepwise regression analysis were used to examine the research hypothesis by the Statistical Package for Social Science (SPSS), Version 18.

## Results

The distribution of demographic variables is shown in Table 1**.**

**Table 1**
**Distribution of Demographic Variables**

| Variables | | Number | Percent |
|---|---|---|---|
| Gender | Men | 169 | 62.37 |
| | Women | 102 | 37.63 |
| | Total | 271 | 100 |
| Education level | Diploma | 15 | 5.54 |
| | Associate's degree | 22 | 8.11 |
| | Bachelor's degree | 191 | 70.48 |
| | Master's degree and Higher | 43 | 15.87 |
| | Total | 271 | 100 |
| Work Experience | Less than 5 years | 55 | 20.3 |
| | 5- 10 years | 29 | 10.7 |
| | 10-15 years | 84 | 31 |
| | 15-20 years | 47 | 17.34 |
| | More than 20 years | 56 | 20.66 |
| | Total | 271 | 100 |

The descriptive findings (Means and Standard Deviations) and variables' correlation coefficients are presented in Table 2.

**Table 2**
**Means, Standard Deviations and Correlation Coefficients between Variables**

| Variables | Mean | SD | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| Control | 3.36 | .64 | 1 | | | | |
| Ownership | 3.04 | .63 | .05 | 1 | | | |
| Reach | 3.04 | .59 | .03 | .56** | 1 | | |
| Endurance | 3.04 | .60 | .36** | .15* | .07 | 1 | |
| Cyber-Bullying (E-mail and online) | 1.45 | .75 | -.15* | -.39** | -.40** | -.18** | 1 |

* P<.05 ** P<.01

The means of AQ components are shown in Table 2 (perceived control, 3.36; origin and ownership, 3.04; reach, 3.04; endurance, 3.04). Moreover, all AQ components (perceived control, origin and ownership, reach and endurance) were negatively related to cyber bullying (email and online).

According to Table 3, in the first step, the component of reach could explain 15.6% of the variance in cyber bullying, and in the second step, the component of perceived control could explain 2.3% of the added significant variance in cyber bullying (email and online). Thus, only the two AQ components of reach and perceived control could predict cyber bullying. Considering negative standard beta coefficients for the two components of reach and perceived control, it can be said that cyber bullying was reduced following the increase in the AQ of the staff.

**Table 3**
**Results of Stepwise Regression Analysis for Predicting Cyber Bullying through the Components of Adversity Quotient**

| steps | Predictive variables | Criteria variables | B | SE | β | R | $R^2$ | | F | Sig |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Fixed coefficient | Cyber-Bullying | 2.95 | .220 | - | .395 | .156 | .153 | 48.20 | .000 |
| | Reach | | -.507 | .073 | -.395 | | | | | .000 |
| 2 | Fixed coefficient | | 3.54 | .312 | - | .423 | .179 | .173 | 28.20 | .000 |
| | Reach | | -.507 | .072 | -.396 | | | | | .000 |
| | Control | | -.177 | .066 | -.150 | | | | | .008 |

## Discussion

Based on the results presented in Table 2 and Table 3, all AQ components of perceived control ($p<.05$), origin and ownership, reach and endurance ($p<.01$) were negatively related to cyber bullying (email and online). Moreover, a stepwise regression analysis showed that the AQ components of reach and perceived control could predict cyber bullying. This results are consistent with the findings of Major Global Technology (2005) and Hui Dai (2009), based on people with high AQ—who are less prone to commit cyber bullying—and Phoolka & Kaur (2012), based on people with high AQ—who quickly adapt themselves to new conditions and procedures, become less confused, and collaborate with their managers. Moreover, the results of this study were relatively consistent with the findings of other studies conducted: for example, Spector & Fox (2002), based on the relationship between negative affect and counterproductive work behaviours, Omar, Halim, Zainah, Farhadi, Nasir & Kairudin (2011), based on a negative relationship between stress and deviant behaviours, and Aftab & Javeed (2012), based on a negative relationship between stress and counterproductive work behaviours.

Given the findings of this study, it can be concluded that in some circumstances, people may perceive their environment as being in conflict with their activities and objectives. Differences in individual characteristics—such as personality and coping style—are the most important determinants of an individual's response to problematic situations. According to Stoltz (1997; quoted by Souza, 2006), success in work and life is largely influenced by people's AQ because AQ—as a personality trait—determines who takes steps beyond expectations and who takes small steps, who retreats in the face of difficulties and who

beats the odds, and finally how people stand in the face of problems and how they overcome them. People's reactions to problematic situations can be predicted on the basis of their perceptions of how much they can influence the consequent events and the extent to which they understand difficult situations, and try to overcome or change them. Deviant behaviours like cyber bullying usually occur when an individual feels that others are treating him/her unfairly. According to a study conducted by Mitchel and Ambrose (2007), deviant behaviour such as cyber bullying occurs when an individual tends to retaliate against something: negative behaviour against negative behaviour. Thus, many people consider retaliation or payback as a good way of solving problems.

Based on deindividuation (Brandtzaeg, Staksrud, Hagen & Wold, 2009), anonymity and low self-awareness lead to deviant behaviours (e.g. sexual abuse, cyber bullying, etc.) done confidently by people. Perceived control determined by flexibility, health and tenacity is the most important component of AQ (Stoltz, 2011). People who respond temporarily, optimistically and joyfully to their problems have higher perceived control. Difficult situations can be overcome through high perceived control, hopefulness and activity (Canivel, 2010). Reach is determined by stress tolerance and efforts to be collectively effective (Stoltz, 2011). People who gain high scores in reach do not make a big deal out of their problems and do not let problems affect their lives negatively; in contrast, people who gain low scores in reach perceive difficulties as predicaments affecting their whole lives destructively (Stoltz, 2011). To summarize, it can be said that people with high AQ believe that stressful environmental factors (injustice, tension, interpersonal conflicts, etc.) are common realities of life and

opportunities for development; therefore, they are less prone to commit cyber bullying.

According to the results, it is recommended that organizational managers consider AQ in the process of selection of their employees because people with high AQ are less affected by negative emotions in the face of environmental stressors (injustice, stress, etc.) and less prone to commit cyber bullying. It must be noted that this study was conducted among employees of a big public organization in Tehran; hence, the results cannot be generalized to other organizations without caution. In addition, this research statistical sample has been selected with the use of the convenience sampling method, which creates barriers for the generalization of results. Furthermore, this study was a correlational study; therefore, causal inferences cannot be made about its results. As a final point, it is necessary to mention that in this study, all variables were measured using the most valid tests; nonetheless, all limitations associated with self-report tests still apply to them.

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