CAN INCIDENCE OF WORKPLACE BULLYING REALLY BE REDUCED?
APPLICATION OF THE TRANSTHEORETICAL MODEL AS TERTIARY STAGE ANTI-BULLYING INTERVENTION

Muhammad Munir1, Saman Attiq2 and Muhammad Zeeshan Zafar3

Abstract

Current study was aimed at analyzing the phenomenon of bullying, identifying the bullies and victims involved in its incidence and reducing the incidence by implementing anti-bullying interventions at tertiary stage through training and coaching. Individual level and group level anti-bullying interventions of training and coaching were implemented at tertiary stage. Out of 266 respondents in pretest, 25 were identified as bullies from which 22 participated as the subjects in anti-bullying intervention implementation at tertiary stage. Previous studies suggested to use tertiary stage anti-bullying interventions to reduce the incidence of workplace bullying. With respect to medium, use of training followed by coaching of bullies were suggested to implement anti-bullying interventions. Results revealed significant reduction in bullying behaviors of subject bullies in posttest stage with a large effect size. Academia and practitioners can take guidance from the findings of current study to reduce the incidence of workplace bullying. Current study utilized individual level and group level anti-bullying interventions. However, policy level and organizational level interventions should also be tested to broaden the magnitude of anti-bullying intervention’s effect.

Keywords: Anti-Bullying Interventions, The Transtheoretical Model, Training, Coaching, Individual Level Interventions, Group Level Interventions.

JEL Classification: M120, C910

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Introduction

Organizations strive hard to optimize performance of their resources to accomplish organizational goals and objectives. Studies (Attiq, Rasool, & Iqbal, 2017; DeCelles, DeVoe, Rafaeli, & Agasi, 2019; Hendy, Can, & Black, 2019; Van Vianen, 2018) recommended organizations to elude stressors and provide motivating workplace environment so that achievement of organizational goals and objectives could be made possible. Field (2014) recommended the global poll of Gemini Consulting (1999) as guidelines to tap five most desired workplace characteristics. The poll revealed that workers desired to have better work-life balance, enjoyable work tasks, job security, fair level of remuneration, and co-workers who are enjoyable to be around. On the contrary, workplace stressors deteriorate motivating workplace environment (Hendy et al., 2019). Hence, provision of motivating environment and elimination of stressors become fundamental concern for the scholars and practitioners.

Workplace bullying is an important type of workplace stressor (Paciello, Fida, Tramontano, Ghezzi, & Barbaranelli, 2019) that not only deteriorates motivating workplace environment but also causes a decline in performance. Its incidence occurs through the exhibition of consistent negative behaviors by the organizational members to harass, offend, retaliate, and isolate target employees (Glambek, Skogstad, & Einarsen, 2018). Hence, its incidence needs to be countered (Paciello et al., 2019). Although negative effects of bullying may be mitigated by developing emotional intelligence among victims (Munir & Azam, 2017) in one way, but aggressors also ought to be targeted to reduce bullying incidence on the other hand (Munir, 2019). Previous studies guided to use anti-bullying interventions at primary (Vartia & Tehrani, 2012), secondary (Meloni & Austin, 2011), or tertiary stage (Schwickerath & Zapf, 2011). With respect to medium, the use of training was recommended by Fox and Stallworth (2009) and coaching of bullies was recommended by Walsh (2018) to implement anti-bullying interventions. Hence, the current study implemented anti-bullying TTM interventions implemented at tertiary stage to reduce the incidence of workplace bullying by using training and coaching as the mediums of intervention.

Objectives

The following objectives were set for the study:

i. To identify bullies and victims in workplace bullying incidence.

ii. To reduce bullying behaviors of bullies by implementing tertiary stage anti-bullying interventions developed by using The Transtheoretical Model (TTM).

iii. To evaluate the effectiveness of anti-bullying interventions implementation at posttest settings.
**Literature Review**

**Workplace Bullying**

According to Einarsen, Hoel, Zapf, and Cooper (2011), workplace bullying includes repeatedly and regularly exhibited negative behaviors aimed at targeting some other employees where the target employees remain defenseless due to their lower power positions. Furthermore, such negative behaviors bring significant adverse effect on the targets (Einarsen, Hoel, & Notelaers, 2009). It is a systematic process that starts with minor incivility and ends up in bullying. Bullying construct covers various negative behaviors like creating threats, spreading rumors, attacking someone physically or verbally, and excluding someone from a group on purpose (Einarsen et al., 2009). Moreover, contrary to commonly held perceptions, bullying incidence was reported more frequently prevailed at workplace (Nielsen, Glasø, & Einarsen, 2017).

**Types of Workplace Bullying**

There are three major types of workplace bullying including work-related bullying, personal bullying, and physical bullying (Bartlett & Bartlett, 2011). As personal and physical bullying are oriented towards a person, we discussed the phenomenon in work-related bullying and personal bullying. In work-related bullying, work load is increased to unrealistic levels for disrupting the target, major responsibilities are removed and menial tasks are assigned (Samnani & Singh, 2016). Moreover, exploitation of work process is done to bully others (Foster & Scott, 2015) such as withholding important information (Baillien, De Cuyper, & De Witte, 2011), unjustly controlling organizational resources (Hutchinson, 2013) and stopping career advancement (Clark, Barbosa-Leiker, Gill, & Nguyen, 2015). In personal bullying, direct and indirect ways are used to attack the target (Bartlett & Bartlett, 2011) to bring psychological harms for the target (Baillien et al., 2011) such as ignoring the target (Clark et al., 2015), responding in an inappropriate way (Beach, 2015), spreading gossips, false accusations, lies about the target, excluding and isolating the target (Fox & Stallworth, 2006).

**Facets of Workplace Bullying**

Agervold (2007) brought a substantial advancement in the literature of bullying phenomenon by combining together four most important facets coming under the umbrella of bullying. He labelled those facets as frequency, duration, intensity and power disparity. He argued that bullying behaviors were exhibited at least once in a week (Mikkelsen & Einarsen, 2002), continued, for a minimum time period of six months (Hoel, Cooper, & Faragher, 2001), brought significant behavioral changes in the targets (Einarsen et al., 2009), and real/perceived power disparity between the bully and the victim prevailed (Hodson, Roscigno, & Lopez, 2006). Therefore, negative behaviors covering these facets are included in workplace bullying.
Causes of Workplace Bullying

There are three most common sources of bullying that include characteristics of bully, victim and work environment (Bowling & Beehr, 2006). All subsequent reasons that explain why people bully others are adjusted in those categories. First reason to bully others cover persuading personality traits of bullies that push him/her to bully others (Clark et al., 2015). Second reason covers personality traits of victims (Pallesen, Nielsen, Magerøy, Andreassen, & Einarsen, 2017). Third reason includes work characteristics and contextual factors which invite occurrence of workplace bullying incidence (Hershcovis et al., 2012). Studies found that professional jealousy, anger issues, desire for vengeance, anxiety (Hershcovis, Reich, Parker, & Bozeman, 2012), superiority complex, and sense of authority/power (Tepper, Duffy, Henle, & Lambert, 2006) encouraged bullies to bully others. According to Ferris, Spence, Brown, and Heller (2012) people bully others because they remained target of bullying that had affected their self-esteem and created inferiority complex for them. Therefore, they bully others to overcome their psychological pressures. Bullies had extroversion and neuroticism (Pallesen et al., 2017). On the contrary, victims had traits of introversion and agreeableness (Pallesen et al., 2017). Third category of work characteristics and contextual factors includes reasons of low performance by the victims (Tepper et al., 2006), toxic working relations (Hershcovis et al., 2012), organizational injustice (Hershcovis et al., 2012), low job autonomy & security (Baillien et al., 2011), and weak organizational culture (Kwan, Tuckey, & Dollard, 2016).

Consequences of Workplace Bullying

Negative effects of workplace bullying range from individual level to organizational level. Some of the most critical individual effects of workplace bullying on victim employee include decreased creativity (Maiuro, 2015), adverse physical and psychological health (Einarsen & Nielsen, 2015), drug addictions (Baker & Pelfrey, 2016), reduced cooperation (Agervold, 2007), suicidal attempts (Lutgen-Sandvik, Tracy, & Alberts, 2007), decreased employee performance (Hansen & Søndergaard, 2018), and increased task errors (Baillien et al., 2009). On the other hand, some of the most critical organizational effects of workplace bullying include financial costs due to high rate of absenteeism, sick leave, payouts, counseling and rehiring (Speedy, 2006), recruitment, selection, retaining, and retraining (Einarsen & Nielsen, 2015), non-achievement of financial goals (Beach, 2015), increased training costs (Foster & Scott, 2015), and increased legal costs (McGee & Byington, 2016). On the other hand non-financial organizational effects include employee turnover (McGee & Byington, 2016), lack of healthy workplace environment (Schutte & Loi, 2014), and decreased organizational productivity (Kwan, Tuckey, & Dollard, 2016).

Anti-Bullying Interventions

Workplace bullying deteriorates workplace environment by creating negative emotional results (Hutchinson, 2013). Hence, its incidence needs to be countered through appropriate
interventions. Nordic Bullying Network Group (2011) provided important guidelines regarding development or implementation anti-bullying interventions. The report provided suggestions for improving physical and psychosocial work environment, improving leadership effectiveness, setting procedures for conflict management and setting fair complaints procedures that work as stimulating factors while intervention implementation.

According to the stage, anti-bullying interventions might be in pre-bullying stage (Vartia & Tehrani, 2012), bullying episodic stage (Meloni & Austin, 2011), and post-bullying stage (Salin, Tenhiälä, Roberge, & Berdahl, 2014). They are also termed as primary, secondary and tertiary interventions respectively. In primary interventions, happening of workplace bullying incidence is prevented in proactive mechanisms such as behavior training, stress management, and policy communication (Hoel, Giga, & Faragher, 2006). However, they are costly, difficult to design & implement and no sufficient empirical evidence is available to justify their effectiveness (Vartia & Tehrani, 2012). In secondary interventions (during bullying attacks), training of emotions is helpful but validity of secondary interventions is questioned (Niven, Sprigg, & Armitage, 2013). Tertiary interventions are effective where after-effects of bullying incidents are focused to be minimized (Schwickerath & Zapf, 2011). Hence, researchers concluded that tertiary stage anti-bullying interventions using ethical infrastructure were appropriate to reduce the incidence of workplace bullying.

The Transtheoretical Model

The Transtheoretical model assesses a person’s readiness to adopt a new healthier behavior by quitting the negative behavior. Willingness to change and readiness to change are prerequisite propositions in the model. It proposes various strategies of change by using theories, constructs and strategies of behavior modification (Prochaska, DiClemente, & Norcross, 1992). It postulates that individuals provoking intentional change have to move through six adjacent stages of change termed as precontemplation (individuals have no intentions to change within the next 6 months), contemplation (individuals have intentions to change within the next 6 months), preparation (individuals are ready to change within the next 30 days), action (individuals successfully change and continue to keep new behaviour for the next 6 months), maintenance (individuals successfully sustain new behaviour for the next 6 months), and termination (individuals have no intentions to return back to old behaviour at any cost) stages. Interestingly, each stage of change uses different strategies for moving to next stage. Here, researcher concludes that willingness to change and readiness to change are the basic propositions of TTM. Therefore, TTM is known as “Stages of Change Model” due to its effectiveness to change various types of negative behaviours by enabling people to quit those behaviours on their own. TTM uses behavioural theories, constructs, and principles & processes of change from leading theories of counselling and behavior change. Hence, researchers believed that bullying incidence could also be effectively reduced by this model. Hence, the following was hypothesized:
Hypothesis: Bullying behaviors of the bullies can be reduced by implementing TTM interventions at tertiary stage.

Methodology

According to the objectives of current study, one group pretest-posttest experimental design was used to evaluate the effectiveness of implementing tertiary stage TTM anti-bullying interventions (See Table 1 in Appendix).

During pretest, bullies were identified. In interventions stage, TTM was used as tertiary level anti-bullying interventions through training and coaching. In posttest stage, bullying behaviors were again measured after implementation of interventions. In pretest stage, 346 respondents were taken as sample size required (Krejcie & Morgan, 1970). Responses of 266 respondents were collected by using simple random sampling. As this study was falling within the domain of phenomenology because it explored experiences encountered by the bullies, findings of Creswell (1998) and Morse (1994) were utilized. 25 bullies were taken as sample from which 22 agreed and participated in tertiary stage anti-bullying interventions.

MS Excel and Statistical Package for Social Sciences (SPSS) were used to analyze data. Descriptive statistics and normality analysis were used to describe the data and to decide about appropriate parametric or non-parametric inferential statistics tests to measure differences in bullying behaviors of bullies at two time lags.

Compliance with Ethical Standards

Researchers complied with the following ethical standards/procedures:

i. Researchers had no real/perceived and direct/indirect conflict of interest.

ii. Institutional ethical standards and APA’s ethical codes were observed as mentioned in “Ethics in Research with Human Participants” (Sales & Folkman, 2000).

iii. Informed consents were on “Consent Form”.

Training Intervention

TTM anti-bullying interventions were used at tertiary stage for six months. The interventions were used by conducting weekly training sessions of one hour on individual basis and, sometimes, on group basis. Details are provided below:
i. Anti-bullying training intervention developed through TTM was implemented on tertiary stage.

ii. 19 bullies were falling in precontemplation stage whereas three bullies were falling in contemplation stage.

iii. 19 bullies were trained to make positive “decisional balance” about terminating bullying behaviors.

iv. 19 bullies were added with second group of 3 bullies to form a homogenous group.

v. The group of 22 bullies was briefed about decisional balance and provided five major processes of environmental re-evaluation (consider others), dramatic relief (increasing emotional awareness), consciousness raising (becoming more informed), self-re-evaluation, and self-liberation (making a commitment).

Details for training intervention are as in Table 2 (See Table 2 in Appendix).

Group “A” was not ready to change bullying behaviors nor does it has intention to change within next six months. They perceived that pros of ceasing their bullying behaviors were much lower than pros of involvement in bullying. After breaking their incorrect perceptions through empathy by avoiding lectures and confrontations, we engaged them in the process of change. Decisional balance along with consciousness raising and social liberation were used to make them believed that pros of ceasing bullying behaviors were more than cons. In training sessions, they were asked to generate a list of pros, add some more pros in existing list and to triple the number of pros. Then, they were asked to list top three pros for themselves according to their importance (i. Not important, ii. Little important, iii. Moderately important, iv. Very important, v. Extremely important). On the contrary, they were also asked to list top three best cons according their importance. Consequently, detailed discussions were carried with the subjects who showed willingness to move further in TTM training intervention with a sigh of relief from perceived stress.

During contemplation, five major processes of change that included environmental re-evaluation, dramatic relief, consciousness raising, self-re-evaluation and self-liberation were used. They were exposed to consciousness raising, dramatic relief, environmental re-evaluation, self-re-evaluation, and social liberation processes for moving from contemplation stage to preparation stage of change. During preparation, bullies were exposed to experiential processes and behavioral processes of change with a special focus on self-liberation (making strong commitments) to cease bullying. In experiential processes, they were asked to note their experiences and experiential tendencies towards involvement vs. quitting bullying behaviors to raise consciousness about disadvantages of exhibiting bullying. In behavioral processes, they were asked remain committed and go through planned actions, get social support and use perceived positive rewards as motivating inducements to cease bullying.
During action stage, bullies were provided counselling services about helping relationships (getting support), counter conditioning (using substitute behaviors of workplace bullying), reinforcement management (using financial or non-financial rewards), and stimulus control (managing the environment). In maintenance stage, they showed good commitment for ceasing bullying behaviors. Whereas termination stage that required observation of five was left due to limitations of access, time and financial resources.

Coaching Intervention

Face-to-face coaching sessions were conducted with the participants where different aspects and benefits of TTM were discussed by inviting questions, queries and feelings. During coaching, appropriate pieces of advice, interpretations, and instructions were provided to impart knowledge about negative aspects of workplace bullying and positive aspects of ceasing bullying behaviors. The bullies were provided effective feedback to raise their level of consciousness. They were induced to explore their own covert feelings as if they had experienced bullying behaviors by others. As a complementary step, they were appreciated for making efforts to acknowledge and reduce their bullying behaviors. Coaching intervention ended with an appreciation to the participants.

Measurements


Results and Discussion

Results of descriptive statistics and inferential statistics are provided as per the objectives of the study in the section given below.

Pretest Stage

In pretest stage, workplace bullying incidence was measured and bullies were identified by using NAQ-R of Einarsen et al. (2009). Respondents indicated frequency of their experience and/or involvement in bullying behaviors during last six months (1. Never, 2. Now and Then, 3. Monthly, 4. Weekly, 5. Daily). A cut of point of 2 (now and then) was utilized to identify. Hence, 25 employees were identified as bullies.

Post-test Stage

For posttest stage, researchers checked basic assumptions as whether to use parametric tests
or non-parametric tests to measure effectiveness of anti-bullying intervention.

Normality Analysis

There were two data sets i.e. pretest and posttest. In order to evaluate normality of the data set, researchers used Kolmogorov-Smirnova and Shapiro-Wilk test. Results are as under (See Table 3 in Appendix):

Results of Kolmogorov–Smirnov and Shapiro–Wilk tests revealed that both the data sets were not normally distributed because both the tests were significant.

Hence, Wilcoxon Signed Rank Test (an equivalent non-parametric test against T-Test) was used to measure effectiveness of anti-bullying intervention.

Wilcoxon Signed Ranks Test

The table 4 shows the results of Wilcoxon Signed Ranks Test (See Table 4 in Appendix).

The results showed that there was a sufficient decrease (2.0855 - 1.4459 = 0.6396) in the mean value of bullying behaviors after implementation of anti-bullying TTM intervention. Mean score was 2.0855 when anti-bullying, tertiary level, TTM intervention was not implemented to the subjects. This means that the bullying incidence was reduced to large extent. The results of signed ranks and test statistics to statistically authenticate these results are shown in the tables 5 and 6 (See Table 5 and 6 in Appendix):

Results showed in Table 5 that bullying behaviors of 21 participants were reduced. However, only 1 participant had increased bullying behaviors. This means that the bullies had reduced bullying incidence after implementation of tertiary level TTM anti-bullying intervention.

Results of test statistic in Table 6 are based on the negative ranks. Z-score was negative with significant p-value. Hence, it was concluded that when the bullies were provided anti-bullying TTM intervention, their bullying behavior was significantly decreased.

With respect to evaluate effect size, following details are relevant:

Effect size (Cohen’s D) = \[
\frac{z \text{- score}}{\sqrt{\text{number of observations}}}
\]

\[
r_{TTM} = \frac{-4.048}{\sqrt{22}} = -0.8630365
\]
The value of Cohen’s D was more than benchmark value of 0.5 for intervention’s effect. Hence, large effect size was concluded as the result of anti-bullying TTM intervention applied at tertiary level that had successfully reduced workplace bullying incidence of subject bullies.

**Discussions**

The current study found the evidence of the prevalence of workplace bullying incidence in health care sector of Pakistan. This finding is similar to the findings of Knapp, Vangelisti, and Caughlin (2014) who found a common prevalence of bullying incidence in health care sector. Current study found that provision of TTM as anti-bullying intervention in tertiary (post-bullying) stage had significantly reduced workplace bullying incidence with a large effect size. This finding authenticates the claim of Prochaska et al. (1992) who posed TTM as a remedial intervention against negative behaviors. This finding fills the gap of using TTM as anti-bullying intervention as desired (Evers, Prochaska, Van Marter, Johnson, & Prochaska, 2007). The current study found that the provision of individual TTM anti-bullying intervention used in post-bullying stage had significantly reduced bullying incidence. This finding is coherent with the notion of Salin et al. (2014) who recommended to use anti-bullying interventions at post-bullying stage to effectively counter that problem. The academic discussion in this aspect could possibly lead towards crafting a better conceptualization of workplace bullying phenomenon.

The findings addressed the important concern of developing individual level and group level anti-bullying interventions and implementing them at tertiary stage to reduce workplace bullying incidence. TTM interventions used attribution theory to explain that bullies assigned internal reasons such as pleasure, power, dominance and some external reasons such as toxic workplace environment to justify their bullying behaviors. The bullies explained their perceived benefits of bullying that could be linked to social capital theory. Hence, the interventions effectively reduced bullying behaviors of bullies. These findings showed that the bullies tended to learn new healthy behavior by training and coaching when they recognized bullying a negative activity and ceased bullying to reap positive rewards. These findings are directly linked to theory of planned behavior and theory of reasoned action and expectancy theory respectively. Current study authenticated that TTM model can also be used to cease workplace bullying behaviors. This implies that this model can be converted into a theory of negative behavior modification.

Findings are beneficial for employers, practitioners, and human resource managers. This study guides employers to effectively reduce bullying behaviors by applying individual level and group level post-bullying TTM interventions. Practitioners and human resource managers may utilize conceptualization of training and coaching as effective strategies to reduce bullying incidence. This study guides them to effectively reduce bullying behaviors through training and coaching of bullies. Hence, they would create motivating work environment to achieve organizational goals.
**Limitations and Future Research Directions**

The current study took individual level and group level anti-bullying interventions rather than using broader levels such as policy level and organizational level due to limitations of time, human and financial resources. This might have limited magnitude of anti-bullying intervention’s effect as higher levels of interventions implementation could result such as organizational level (Rayner & Lewis, 2011), country level and/or policy level (Vartia, Lahtinen, Joki, & Soini, 2008). Secondly, current study applied intervention into post-bullying stage. However, interventions might also be implemented at pre-bullying stage (Vartia & Tehrani, 2012) and bullying episodic stage (Meloni & Austin, 2011). Hence, a comparative study of applying TTM in anti-bullying interventions at primary, secondary and tertiary stage or a combination of two or three stages would create an in-depth understanding. Further investigations are required to verify and validate effectiveness of TTM in other occupational sectors, cultures and contexts. Lastly, one group pretest-posttest experimental design was used that might have created issues of generalizability. Moreover, internal validity can be enhanced by future studies by using a parallel control group against experimental group. In spite of these limitations, researchers published results due to the strengths least mortality rate was present and statistical regression also shows an appropriate level of internal validity by getting non-extreme scores.

**References**


Appendix

Table 1
One Group Pretest-Posttest Design

<table>
<thead>
<tr>
<th>Variables</th>
<th>i. Pre-test</th>
<th>ii. Interventions</th>
<th>iii. Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bullying</td>
<td>Y1</td>
<td>X1</td>
<td>Y2</td>
</tr>
</tbody>
</table>

Table 2
Bully Group and Stages of Change

<table>
<thead>
<tr>
<th>Group</th>
<th>Stage No.</th>
<th>Name of Stage</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Pre-contemplation</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Contemplation</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Preparation</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Action</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Maintenance</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Termination</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Participants</td>
<td>22</td>
<td></td>
</tr>
</tbody>
</table>

Table 3
Tests of Normality

<table>
<thead>
<tr>
<th></th>
<th>Kolmogorov-Smirnov</th>
<th>Shapiro-Wilk</th>
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<tbody>
<tr>
<td></td>
<td>Statistic</td>
<td>df</td>
</tr>
<tr>
<td>Pretest_Bullying</td>
<td>.304</td>
<td>22</td>
</tr>
<tr>
<td>Posttest_Bullying</td>
<td>.298</td>
<td>22</td>
</tr>
</tbody>
</table>

a. Lilliefors Significance Correction

Table 4
Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest_Bullying</td>
<td>22</td>
<td>2.0855</td>
<td>.12905</td>
<td>1.92</td>
<td>2.40</td>
</tr>
<tr>
<td>Posttest_Bullying</td>
<td>22</td>
<td>1.4459</td>
<td>.20593</td>
<td>1.16</td>
<td>2.12</td>
</tr>
</tbody>
</table>
### Table 5  
**Signed Ranks**

<table>
<thead>
<tr>
<th>Posttest_Bullying - Pretest_Bullying</th>
<th>N</th>
<th>Mean Rank</th>
<th>Sum of Ranks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative Ranks</td>
<td>21a</td>
<td>11.95</td>
<td>251.00</td>
</tr>
<tr>
<td>Positive Ranks</td>
<td>1b</td>
<td>2.00</td>
<td>2.00</td>
</tr>
<tr>
<td>Ties</td>
<td>0c</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Posttest_Bullying < Pretest_Bullying  
b. Posttest_Bullying > Pretest_Bullying  
c. Posttest_Bullying = Pretest_Bullying

### Table 6  
**Test Statistics**

<table>
<thead>
<tr>
<th>Posttest_Bullying - Pretest_Bullying</th>
<th>Z</th>
<th>Asymp. Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-4.048b</td>
<td>.000</td>
</tr>
</tbody>
</table>

a. Wilcoxon Signed Ranks Test  
b. Based on positive ranks.