Bullying and health at work: The role of Psychological Capital and Social Support.
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Abstract

The role of psychological capital (PsyCap) and social support in relation to the impact of bullying at work was investigated in a quantitative survey of 2,068 employees from a range of organisations. A resource model of stress, with PsyCap and social support as potential mediators, was proposed and tested using Structural Equation Modelling (SEM). Based on previous research we expected that both PsyCap and social support would mediate the impact of bullying. The model was tested with both ill-being and well-being outcomes and shown to be a good fit for the data. We concluded that both variables separately mediate the impact of bullying but it is their joint impact that should be noted. The study supports the use of psychological capital and social support in a more comprehensive model of bullying at work and suggests that the impact of bullying may be much more pervasive than previously suggested.

Key words

Bullying; Incivility; Psychological capital; Social support; Psychological distress; Job satisfaction
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Introduction

Work place bullying has been a major topic in organisational research over the past 20 years and is defined as negative treatment that is systematic, continuing over a period of time, and perceived as directed towards one or more people who have difficulty defending themselves against it (Branch, Ramsay & Barker, 2012; Matthiesen & Einarsen, 2007). The breadth of this definition has created a situation where the degree of negativity and the duration of the treatment is so broad as to lead some authors to use other terms such as mobbing, incivility (e.g., Andersson & Pearson, 1999), social undermining (e.g., Duffy, Ganster, & Pagon, 2002), mobbing (e.g., Leymann, 1990), workplace aggression (e.g., Neuman & Baron, 1998), emotional abuse (e.g., Keashly, Hunter, & Harvey, 1997), victimization (e.g., Aquino, Grover, Bradfield, & Allen, 1999), interpersonal conflict (e.g., Spector & Jex, 1998), and abusive supervision (e.g., Tepper, 2000). Indeed evidence suggests that negative impacts occur for those who just observe bullying and are not directly involved (Lutgen-Sandvik, Tracy, & Alberts, 2007; Vartia, 2001). In an attempt to clarify this situation Hershcovis (2011) suggests that we use the terms work place aggression instead and consider the intensity, frequency, perpetrator intent, perceived invisibility, and perpetrator-victim relationship as moderators, with blame attribution, affect, and forms of injustice as mediators. What seems to be indicated is a continuum of work place aggression using the above dimensions. A common theme in all of this research is the negative impact and negative processes that are involved.

The development of positive psychology has contributed to a focus on positives rather than negatives, a focus on resources rather than deficits, for example the work on psychological
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capital (Luthans, Youssef, & Avolio, 2007). These authors define psychological capital as “an individual’s positive psychological state of development and is characterized by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success” (Luthans et al., 2007, p. 3). It is operationalized as a second order core factor comprised of optimism, hope, self-efficacy and resilience (Avey, Reichard, Luthans, & Mhatre, 2011). Avey et al (2011) in a meta-analysis conclude there are “positive relationships between PsyCap and desirable employee attitudes (job satisfaction, organisational commitment, psychological well-being), desirable employee behaviors (citizenship), and multiple measures of performance (self, supervisor evaluations, and objective). There was also a significant negative relationship between PsyCap and undesirable employee attitudes (cynicism, turnover intentions, job stress, and anxiety) and undesirable employee behaviors (deviance) (p. 128)”. Other research has shown direct relationships between PsyCap and well-being, and inverse relationships with negative emotional states and exhaustion (Youssef & Luthans, 2007; Luthans, Avolio, Avey & Norman, 2007). The concept of PsyCap builds on the traditional deficit model of stress-coping (Lazarus & Folkman, 1984) but moves the focus in a positive direction towards more of a resource model (Bower, Moskowitz, & Epel, 2009; Cassidy, Giles & McLaughlin, in press). However there has been no research on the relationship between PsyCap and bullying, hence the current study. Roberts, Scherer and Bowyer (2011) have looked at psychological capital as a mediator of the impact of job stress on incivility which would indicate a potential link with bullying in the workplace.
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On the other hand, the link between social support and bullying has been well established which provides a strong case for including it an exploration of the role of PsyCap. Research has identified coworker support as important in reducing the negative impact of bullying (Djurkovic, McCormack, & Casimir, 2008; Leather, Lawrence, Beale, Cox, & Dickson, 1998; Schat & Kelloway, 2003; Soares, Lawoko, & Nolan, 2000; Tracy, Lutgen-Sandvik, & Alberts, 2006) and that victims of bullying tend to report less support from coworkers (Hansen, Hogh, Persson, Karlson, Garde, & Orbaek, 2006). In the literature on stress and coping, social support has been unanimously demonstrated as a key variable in both mediating and moderating stress (Cassidy, 2011). In psychological research a distinction is made between received or actual social support (measured in terms of social connectedness) and perceived social support, with studies generally showing only small correlations between the two (Barrera, 1986; Schwarzer & Leppin, 1991). Perceived support is generally seen as an individual difference variable (Sarason, Sarason, & Shearin, 1986), and tends to have the larger impact on outcomes; in some studies it is only perceived support which has an impact (Taylor, 2011). Substantive conclusions that can be drawn from the social support literature are, (a) perceived support does not occur in the absence of actual support, (b) perceived support has the larger and more consistent impact, (c) studies which only measure actual support produced equivocal findings. In the proposed resource model of stress we use social resources to describe perceived social support conceived as a resource and defined in terms of support from family, and because of the nature of the sample, support from friends at work.

Rationale
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Bullying at work has generally been researched in terms of its negative impact, which provides us with a literature balanced in favour of what does not work as opposed to what does work. The emergence of positive psychology has brought with it a revised focus based on the premise that perhaps we can learn more about fixing what is broken, by studying what is not broken. The recently evolving field of positive organisational behavior provides us with the concept of psychological capital (PsyCap) as comprised of hope, optimism, self-efficacy and resilience, and with evidence that it enhances performance, job satisfaction, work happiness and organisational commitment (Luthans, Avolio, Avey & Norman, 2007; Youssef & Luthans, 2007). In addition to PsyCap the literature provides substantial evidence of social support as a resource. Combined with the more general move in the past 10 years towards a resource model of stress it is perhaps timely to look at the role of resources rather than deficits in response to bullying.

The current study aims to explore the role of psychological capital and social support in the relationship between the experience of bullying, and both well-being and ill-being outcomes. The constructs well-being and ill-being are widely used to distinguish between the experience of positive and negative emotional states and there is fairly strong evidence to support using them as distinct variables (Bradburn, 1969; Diener, Smith, & Fujita, 1995; Russell & Carroll, 1999) including some evidence that they are biologically distinct (Ryff, Love, Ury, Muller, Rosenkranz, Friedman et al, 2006). The constructs are used very widely and are generally ill defined. Diener (2006) describes them as ‘umbrella terms’ and says they include “reflective cognitive evaluations, such as life satisfaction and work satisfaction, interest and engagement, and affective reactions to life events, such as joy and sadness” (p. 153). Given the lack of clarity, in this study well-being outcomes are operationalized as a composite of positive mental health
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and job satisfaction, while ill-being outcomes are operationalized as a composite of negative mental health and perceived stress. Positive and negative mental health are operationally defined as scores on the separate positive and negative dimensions of the General Health Questionnaire as described in the methods section (Hu, Stewart-Brown, Twigg & Weich, 2007). A hypothetical model was devised as shown in Figure 1 and the key aim is to test this model. The model is predicated on the following predictions:

1. Psychological capital will be inversely related to ill-being outcome and directly to well-being outcome.

2. Experience of bullying will be directly related to ill-being outcome and inversely to well-being outcome.

3. Psychological capital and support will mediate the relationship between experience of bullying and both well-being and ill-being outcomes.

The model to be tested is based on the widely used Transactional Model of Stress (Lazarus & Folkman, 1984). The Transactional Model of Stress is a framework for evaluating the processes of coping with stressful events. Stressful experiences are construed as person-environment transactions which depend on the impact of the external stressor. This impact is mediated by the person’s interpretation of events and means that the stress experience is subject to individual differences. Traditionally research has been based on a deficit model but the growth of positive psychology points towards the potential utility of a resource model. We have modified the model by proposing PsyCap and social support as the potential mediators which might usefully explain some of the individual differences in the stress experience at work. The approach is still based on the idea of stress involving a transactional process but suggesting that the impact of
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Method

Design and sample

In a survey using questionnaire data collection a total of 2,068 individuals (671 males and 1,397 females) responded with completed measures. They were a convenience sample of employees from a range of positions in 8 UK organisations, including manufacturing (11.5%), sales (12.5%), educational (39.2%), public sector (20.9%) and nongovernmental organisations (NGOs) (15.9%). Participant ages ranged from 23 to 57 years (M = 31.5, SD = 4.4), and they had 0.72 to 22.5 years of tenure with the organisation (M = 4.14, SD = 4.68). In terms of education 14.1% had no formal educational qualifications, 29.8% had GCSE level, 16.9% A'Level, and 39.2% had a university degree. The sample has approximately twice as many females as males which is often the case in this type of survey research.

Procedure

Following ethical approval and permission, convenience sampling was used to distribute a link to an online questionnaire via e-mail to participants in the 8 organisations. Questionnaires were anonymous and distribution of the web link was done internally to each organisation, hence accurate information on the total sample receiving the link is not available. However, since between them the mailing lists of the organisations totaled 8,648 individuals and the total completed questionnaires was 2,068, a response rate of 23.9% was the minimum achieved.

Measures
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**Bullying** was measured using an English language version of the 22-item Negative Acts Questionnaire (NAQ) (Einarsen & Raknes, 1997; Einarsen et al., 1994). The NAQ consists of 22 items referring to specific kinds of bullying behaviours, such as exposure to excessive teasing, insulting remarks, social exclusion, verbal abuse, threats of being fired or made redundant, and slanders or rumours about oneself. The respondents were asked if they had been exposed to any of these behaviours during the past 6 months, with the following response alternatives and scoring: never=1, occasionally=2, monthly=3, weekly=4, or daily=5. In the present study, the NAQ was scored in a number of ways. Firstly, we used the traditional method where the score for each person was summed to a single total measure of the intensity of the experienced bullying behaviours. Using this scoring Cronbach’s alpha for NAQ was found to be 0.85. Secondly following Lutgen-Sandvik, Tracy, and Alberts, (2007), and based on reasoning that behaviours that are experienced less than weekly or daily are less likely to be bullying, we recoded the NAQ items so that never, occasionally and monthly were scored 0, while weekly was scored 1 and daily was scored 2. This provides a stronger continuous measure of frequency and intensity of negative acts. After responding to these items, a definition of bullying at work was introduced and the respondent indicated whether or not they considered themselves victims of bullying at work according to this definition. In this question bullying was defined as “A situation where one or several individuals persistently over a period of time perceive themselves to be on the receiving end of negative actions from one or several persons, in a situation where the target of bullying has difficulty in defending him/herself against these actions. A one-off incident is not bullying.”

**Psychological Capital** was measured using the Psychological Capital Questionnaire (PCQ-24) which is a 24 item measure combining measures of hope (e.g. *I can think of many...*
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ways to reach my current work goals), optimism (e.g. I always look on the bright side of things regarding my job), self efficacy (e.g. I feel confident analyzing a long-term problem to find a solution) and resilience (e.g. I usually manage difficulties one way or another at work) in terms of the model developed by Luthans et al (2007). The scale has been used in a number of studies which have demonstrated its validity (e.g. Luthans, Avolio, et al., 2007; Luthans, Youssef, & Avolio, 2007). All items were measured using a 6-point Likert scale of agreement with response options ranging from 1 strongly disagree to 6 strongly agree. Cronbach Alpha in this study was .87.

Social resources was measured using the Perceived Social Support Scales (PSS-Fr and PSS-Fa Scales: Procidano & Heller, 1983) which are two 20-item scales designed to measure perceived levels of social support received from friends (PSS-Fr) and family (PSS-Fa). Most statements appear on both subscales, but one scale is concerned with family and the other with friends (e.g. 'I rely on my family for emotional support' vs. 'I rely on my friends for emotional support'). In the current study participants were asked about friends at work, rather than just friends generally. The items are rated across a three-point scale 'yes', 'no' and 'don't know'. The measure is comprehensive and designed to reflect a number of forms of support including, emotional, feedback, informational and reciprocity (i.e. provision of support by the individual). In the current study the reliability coefficient values were friends support (α = .81), and support from family (α = .83).

Job satisfaction was measured using the global job satisfaction item from the widely used Warr, Cook & Wall (1979) scales. This is a single item measure and participants are asked 'taking all things into account, how do you generally feel about your job?' They are then asked
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to give their response on a rating scale which runs from *Very Dissatisfied* to *Very Satisfied*. In this study we used a 10 point scale.

**Positive and negative mental health** were measured using the General Health Questionnaire (GHQ-12: Goldberg, 1972, 1978) which is comprised of 12 questions, each of which is rated on a four-point scale. At the time of completing the GHQ-12 the participants were asked to consider how they had been feeling over the past month. To provide an example, headed with the words ‘In the last month have you’ the participants would answer questions such as ‘Been able to concentrate on what you are doing?’ by indicating one of the following ‘*better than usual*’, ‘*same as usual*’, ‘*less than usual*’ or ‘*much less than usual*’. In terms of scoring the GHQ-12, there are two methods. Likert scoring assigns a score (0-1-2-3) in response to each of the 12 questions, which makes for a maximum total score of thirty-six. There have been numerous psychometric studies of the GHQ-12 which show that it measures a number of factors but can equally be used as a unified measure (Campbell, Walker, & Farrell, 2003; Kalliat, O’Driscoll, & Brough, 2004; Shevlin & Adamson, 2005). More recently attention has focused on whether it can be used to measure positive mental health as an independent dimension (Hu, Stewart-Brown, Twigg & Weich, 2007), based on the generally accepted conclusion that positive and negative mental health are independent dimensions (Huppert, & Whittington, 2003). As in the Hu et al (2007) study, we found in our current data set that a two factor solution was produced with the 6 positive items loading on one dimension ($\alpha = 0.83$) while the 6 negative items loaded on a separate one ($\alpha = 0.81$). The factors were used to measure separate dimensions of positive and negative mental health in the current study. An example of a positive item is, ‘*Been able to enjoy your normal day to day activities*’ and an example of a negative item is,
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'Been feeling unhappy and depressed'. Both have a 4 point response set, more than usual, same as usual, less than usual, and much less than usual.

**Perceived stress**: The Perceived Stress Scale (PSS) – 10 item (Cohen & Williamson, 1988) is a 10 item measure of the degree to which one perceives aspects of one's life as uncontrollable, unpredictable, and overloading. It was developed from the Cohen et al. (1983) 14 item Perceived Stress Scale (PSS), which was based on Lazarus's theory of stress appraisal (Lazarus & Folkman, 1984). The PSS is designed to measure "the degree to which situations in one's life are appraised as stressful" (Cohen, Kamarck, & Mermelstein, 1983). Internal consistency for the items was strong (α = .86).
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Results

The first stage in analysis involved Pearson Correlation analysis (shown in Table 1) to explore the relationship between the experience of being bullied as measured by the Negative Acts Questionnaire (NAQ), the psychological capital first order factors of hope, optimism, self efficacy and resilience, support from friends at work and family, job satisfaction, positive mental health, negative mental health and perceived stress.

Negative acts correlated directly with perceived stress and negative mental health, and inversely with job satisfaction, positive mental health, hope, optimism, resilience, self efficacy, and support from both friends at work and family. The psychological capital dimensions and both measures of support correlated directly with positive mental health and job satisfaction, and inversely with perceived stress and negative mental health.

In order to explore the relationships more robustly Structural Equation Modelling (SEM) using AMOS was undertaken. Firstly the measurement models for each of the latent variables (psychological capital, social resources, and bullying) were tested through confirmatory factor analysis (CFA). All the models exhibited good fit for the data meeting the criteria of CFI and IFI above .95 and RMSEA below .08. This allowed the latent variables to be used in a path model thereby simplifying interpretation. The full results are available from the corresponding author. The next stage involved testing each part of the overall model separately for well-being and ill-being outcomes. The latent variable bullying is construed as a composite of the NAQ intensity and frequency score and the simple dichotomous category of either being bullied or not. The outcome variable for well-being comprises positive mental health and job satisfaction, while the outcome variable for ill-being comprises perceived stress and negative mental health. All models were tested using SEM and met the criteria for goodness of fit as shown in Table 2.
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Firstly models of well-being were tested starting with a model with social resources as a potential mediator, followed by a model with PsyCap as a mediator, and then with both social resources and PsyCap as mediators. All models exhibited good fit for the data. The process was repeated for ill-being and again each model exhibited good fit for the data as shown in Table 2.

We then tested the full model hypothesized in Figure 1 and produced the output shown in Figure 2. The full results using measurement models for each variable are available from the corresponding author, however for simplicity the model using latent variables is produced here. The fit indices indicate that the model is a good fit to the data ($\chi^2_{(45, N=2068)} = 108.33$, $p<.001$; CFI=.98, IFI=.98, RMSEA=.06). The bootstrapping method was used and the standardized indirect effect of bullying on well-being was -.432, $p<.001$ (95% CL: -.471 to -.397), and the standardized indirect effect of bullying on ill-being was .399, $p<.001$ (95% CL: .363 to .439). In order to identify mediation effects the standardized regression coefficients from SEM analysis were extrapolated and are shown in Table 3. For both well-being and ill-being psychological capital and social resources separately provided partial mediation of the effect of bullying, but when both psychological capital and social resources were included their combined effect was full mediation.

Discussion

The main aim of this study was to test the hypothesized resource model in regard to both ill-being and well-being and this aim was supported by the results. The model shows that both psychological capital and social resources mediate the relationship between bullying and both well-being and ill-being. Separately these variables each partially mediate the relationship, but taken together they provide full mediation. This simply replicates previous findings on social
Bullying and Psychological Capital resources (Djurkovic et al., 2008; Leather et al., 1998; Schat & Kelloway, 2003; Soares et al., 2000; Tracy et al., 2006), but provides some initial evidence of an important role for psychological capital in regard to bullying at work. The individual predictions that, (a) psychological capital would be inversely related to ill-being and directly to well-being, and (b) experience of bullying will be directly related to ill-being and inversely to well-being, are supported by the findings from the correlation analysis as well as from the model fit.

In terms of ill-being outcomes it is interesting that both social resources and psychological capital perform partial mediation of the relationship with bullying, and that social resources have the stronger mediating effect. What seems to be suggested is that social support may be more important in reducing the negative impact of bullying, but psychological capital is more important in developing well-being. It is important to state that these findings do not suggest that bullying causes psychological capital or social resources, simply that in the context of bullying both are likely to reduce its impact. Nor does this data say anything about the causes of bullying and in line with current understanding it is argued that both bullying and psychological and social resources are produced and maintained by a range of environmental and organisational factors. However the data do suggest that enabling the development of psychological and social resources should be a focus of health and well-being in the workplace.

The components of psychological capital and both measures of social support correlated directly with positive mental health and job satisfaction, and inversely with negative mental health and perceived stress. The difference in the size of correlations for family support and work friends support confirms previous research which identifies coworker support as important in negating the impact of bullying (Hansen, Hogh, Persson, Karlson, Garde, & Orbaek, 2006; Soares, Lawoko, & Nolan, 2000). The findings are in line with Avey et al (2010) and provide
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further support for the utility of psychological capital as a construct in exploring health and well-being in the workplace. The experience of being bullied as measured by the NAQ is inversely correlated with positive mental health and job satisfaction and directly correlated with negative mental health and perceived stress in line with previous literature (e.g. Einarsen, 2000; Cowie et al, 2002).

The research herein has provided some support for psychological capital as an important factor in workplace bullying, particularly focusing on enhancing positive health. This fits within the growing field of positive organisational behavior and needs to be considered as much more than an individual level variable. There is a need to understand what makes individuals, groups, and organisations resilient, optimistic, and hopeful. The model proposed here needs to be explored longitudinally and applied to developing strategies that build psychological capital. The application of positive psychology to organisations is long overdue.

This research provides support for the call by Luthans, Vogelgesang and Lester (2006) for organisations to invest in the development of psychological capital if they are to provide a healthy workforce to meet the challenges of the modern world. This is particularly important in the current economic climate where most organisations are faced with delivering more with a slimmed down workforce. This study adds to previous research evidence that not only does psychological capital impact on well-being and satisfaction at work, but it can mediate the impact of aggression in the workplace. However it suggests that psychological capital should not lead to the dismissal of the well established effect of social support. Bullying does need to be tackled on other fronts though. The evidence that even being aware of bullying within the workplace can have an influence on well-being and job satisfaction suggests that its impact may be much more widespread than is often suggested.
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The current research is cross sectional and is limited in that we cannot fully test the causal relationships in the model. It is likely that reciprocal relations of causality exist and effect is not always in the same direction. PsyCap and social resources are just as likely to modify the individuals appraisal of situations in terms of bullying as the experience of bullying is to reduce ones sense of resilience and perception of being supported. However we can still conclude that improving both is likely to reduce ill-being and improve well-being.

While the current model provides some useful insight it clearly needs further study, particularly in a longitudinal dataset that would allow the exploration of the development of, and causal factors involved in, psychological capital. In addition the evaluation of some of the positive psychology interventions based on resilience building could be usefully incorporated. Furthermore it is possible that other variables need to be added to the construct psychological capital. For example it seems to be missing a motivational element and recent work on life engagement could be useful included in future research. For example the concepts of self determination (Deci & Ryan, 1985) and engagement (Harter, Schmidt, & Hayes, 2002) which have an established evidence base, would seem to have potential explanatory power to add.
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Figure 1: A resource model of bullying and health
## Table 1: Pearson Correlations between variables

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<td>1. Positive mental health</td>
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<td>2. Satisfaction</td>
<td>.561*</td>
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<td>3. Negative mental health</td>
<td>-.628*</td>
<td>-.515*</td>
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<td>4. Perceived stress</td>
<td>-.604*</td>
<td>-.345*</td>
<td>.627*</td>
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<td>5. Resilience</td>
<td>.521*</td>
<td>.399*</td>
<td>-.435*</td>
<td>-.335*</td>
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<td>6. Hope</td>
<td>.506*</td>
<td>.396*</td>
<td>-.494*</td>
<td>-.363*</td>
<td>.530*</td>
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<td>7. Optimism</td>
<td>.600*</td>
<td>.389*</td>
<td>-.471*</td>
<td>-.366*</td>
<td>.383*</td>
<td>.403*</td>
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<td>8. Self efficacy</td>
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<td>-.438*</td>
<td>-.326*</td>
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<td>.455*</td>
<td>.366*</td>
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<td>9. Support from friends</td>
<td>.587*</td>
<td>.533*</td>
<td>-.609*</td>
<td>-.382*</td>
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<td>.500*</td>
<td>.427*</td>
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<td>10. Support from family</td>
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<td>11. Negative acts</td>
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<td>-.364*</td>
<td>-.557*</td>
<td>-.384*</td>
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*p < 0.05, *p < 0.01
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Table 2: Structural Equation Modelling results for each stage of the overall model

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<tr>
<th>Predictor</th>
<th>Mediator</th>
<th>Dependent</th>
<th>$\chi^2$</th>
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<th>p-value</th>
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<th>IFI</th>
<th>RMSEA</th>
<th>Indirect effect</th>
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<th>Upper limit</th>
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Figure 2: Structural Equation Model for bullying, social resources and psychological capital on illbeing and wellbeing, showing standardized regression coefficients and % variance. ($\chi^2_{27,1000}=207.56$, p<.001; CFI=.98, TLI=.98, RMSEA=.06)
**Bullying and Psychological Capital**

**Table 3: Mediation analysis based on standardized regression weights from SEM**

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<th>Relationship</th>
<th>Mediator</th>
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<th>Direct effect with mediator</th>
<th>Indirect effect</th>
<th>Mediation</th>
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<td>-.347***</td>
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<tr>
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<td>-.501***</td>
<td>-.013 ns</td>
<td>-.517***</td>
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** p<.01  *** p<.001