THE PSYCHOSOMATIC MODEL OF WORKPLACE BULLYING: A CROSS-CULTURAL COMPARISON BETWEEN SCHOOLTEACHERS IN AUSTRALIA AND UGANDA

INTRODUCTION

The psychosomatic model of workplace bullying states that workplace bullying leads to negative affect which, in turn, leads to physical symptoms. Although the psychosomatic model of workplace bullying has been examined in several countries (*e.g.* Australia and Denmark), a cross-cultural comparison of this model has yet to be conducted. This is surprising, given the critical role played by culture in shaping people's perceptions (Shaw, 1990; Munene, Schwartz and Kibanja, 2005). The main objective of this paper is therefore to examine the psychosomatic model of workplace bullying, using samples from Australia and Uganda. The use of directly comparable samples from two vastly different countries facilitates a more comprehensive understanding of the causes and consequences of workplace bullying, and underpins the development of effective workplace policies and practices to reduce the negative effects of workplace bullying.

Workplace bullying

Workplace bullying has been defined in several ways. Some scholars (*e.g.* Hoel, Rayner and Cooper, 1999) construe workplace bullying as comprising a diverse range of violent and non-violent behaviors that have negative psychological and physical effects on the targets of the bullying (Einarsen and Mikkelsen, 2003). Workplace bullying behaviors include, but are not limited to, actions such as harassing, offending, socially excluding or withholding information from the target. There are several categorizations of bullying behaviors presented in the literature (Einarsen, Hoel, Zapf and Cooper, 2003). For example, bullying

behaviors may be categorized as being work-related (*e.g.* unreasonable criticism of work), organizational (*e.g.* unreasonable deadlines), personal (*e.g.* teasing), or intimidatory through physical or verbal means (*e.g.* anger or rage). A defining feature of workplace bullying is that such behaviors occur frequently (*e.g.* weekly) and over an extended period of time (*e.g.* several months) (Leymann, 1990; Einarsen *et al.*, 2003). An important aspect of workplace bullying is that a particular behavior is regarded as bullying only if the target perceives it as inappropriate. The intent of the perpetrator is thus not central to determining whether or not bullying has occurred (Hoel *et al.*, 1999; Rayner, Hoel and Cooper, 2002; Liefooghe and Mackenzie Davey, 2003).

Distinctions can be made between different types of workplace bullying by considering the hierarchical status of the perpetrator(s) relative to that of the target. Three categories of workplace bullying can thus be delineated: i) downward bullying, which refers to instances of bullying in which the target has lower hierarchical status than does the perpetrator; ii) upward bullying, which refers to instances of bullying in which the target has higher hierarchical status than does the perpetrator; and iii) horizontal bullying, which refers to instances of bullying in which the target and the perpetrator have equal hierarchical status (Lewis and Sheehan, 2003; Branch, Ramsay and Barker, 2007). Of these three types of workplace bullying, downward bullying is the type reported most commonly (Rayner and Cooper, 2003; Zapf, Einarsen, Hoel and Vartia, 2003).

The psychosomatic model of workplace bullying

The psychosomatic hypothesis has its origins in the stress literature and is described as being an extension of the 'flight or fight' response in that individuals who chronically experience high activation emotional states, such as negative affect, are prone to higher rates of physical illness (Watson and Pennebaker, 1989; Watson, 2000). Negative affect refers to negative

emotions including anger, anxiety, distress, guilt or nervousness (Watson and Clark, 1984). The general psychosomatic hypothesis has received considerable support in that negative affect has been shown repeatedly to be a predictor of physical health (*e.g.* Dua, 1994; De Gucht, Fischler and Heiser, 2004). Furthermore, the psychosomatic model has recently been applied to workplace bullying and has been supported (*e.g.* Mikkelsen and Einarsen, 2002; Djurkovic, McCormack and Casimir, 2004; Hansen *et al.*, 2006).

A wide range of psychological symptoms and physiological symptoms are attributable to workplace bullying (*e.g.* Hoel, Faragher and Cooper, 2004; Fox and Stallworth, 2005; Lee and Brotheridge, 2006). In fact, being bullied can lead to both serious mental health problems (*e.g.* depression) and serious physical ailments (*e.g.* cardiovascular disease) (Kivimaki *et al.*, 2003), as well as symptoms of post-traumatic stress (Leymann and Gustafsson, 1996; Nielsen, Matthiesen and Einarsen, 2008). Targets of bullying have reported psychological problems such as generalized stress, anxiety, and difficulty concentrating (Vartia, 2001; Mikkelsen and Einarsen, 2002), and physiological problems such as insomnia, stomach complaints, headaches, fatigue, and tachycardia (O'Moore, Seigne, McGuire and Smith, 1998; Vartia, 2001).

The recurring negative affect (*e.g.* fear and anxiety) that results from being bullied at work can eventually lead to various physical disorders (*i.e.* the psychosomatic model of workplace bullying). There is evidence (*e.g.* Mikkelsen and Einarsen, 2002; Djurkovic *et al.*, 2004; Hansen *et al.*, 2006) that workplace bullying leads to physical symptoms by first evoking negative affect in targets. It is therefore negative affect, rather than bullying itself, that leads to a wide range of physical symptoms.

Some characteristics of targets of bullying have been analysed with respect to the psychosomatic model of bullying (*e.g.* self-efficacy: Mikkelsen and Einarsen, 2002; neuroticism: Djurkovic *et al.*, 2006). It has been argued that neuroticism should be included

in the psychosomatic model of workplace bullying (Djurkovic *et al.*, 2006) on the basis that neurotic individuals have a tendency or predisposition to experience negative emotional states (Costa and McCrae, 1980; Watson and Clark, 1984; Meyer and Shack, 1989). Furthermore, neuroticism is positively correlated to anxiety, depression (Clark, Watson and Mineka, 1994) and medically unexplained physical symptoms (*e.g.* Hendryx, Haviland and Shaw, 1991; De Gucht *et al.*, 2004). Given its relationship to both negative affect and physical symptoms, neuroticism is an important variable to include in the psychosomatic model of workplace bullying.

Culture

Culture has been defined in numerous ways. A well-accepted definition of culture is that it is 'software of the mind' (Hofstede, 1980) in that it provides members of a collective with shared cognitive structures (*e.g.* implicit theories) and thus a commonality with respect to interpretations of specific attitudes, values, and behaviors. For instance, members of societies are compelled to act in ways (*e.g.* obey superiors) that indicate to others that they uphold societal values (*e.g.* deference to authority) (Maehr and Nicholls, 1980).

Cultures can be differentiated on the basis of whether or not members of a culture place their self-interests above the interests of the social unit. Individualists are found predominantly in Western cultures such as Australia and tend to place their self-interests above the interests of the social unit. Conversely, collectivists are found predominantly in non-Western cultures such as in many African countries (*e.g.* Uganda) and tend to place the interests of the social unit above their self-interests. The reason for this difference between collectivists and individualists is that collectivists tend to construe themselves primarily as members of a social unit whereas individualists construe themselves as separate identities

(Hofstede, 1980). The individualism-collectivism dimension is related to several other cultural dimensions such as attitude to authority.

Cultures can be differentiated also on the basis of their members' attitudes to authority. Power distance refers to the extent to which less powerful members accept that power is distributed unequally in relationships, and relates to social inequality and the amount of authority that one person has over another (Hofstede, 1980; Hofstede and Bond, 1984). With regards to workplace relationships, power distance refers to the difference between the extent to which the leader can influence the subordinate and the extent to which the subordinate can influence the leader (Hofstede, 1980). Furthermore, power distance reflects the value that members of a society place on adhering to authoritarian norms (Doney, Cannon and Mullen, 1998).

Uganda, like East Africa (Hofstede, 1990), has a collectivistic culture (Jabs, 2005) that is high in power distance (Peterson *et al.*, 1995). In organizations in such cultures, power and command are highly centralized at the senior management level (Smith and Tayeb, 1988; Blunt and Jones, 1992) and managers are not likely to delegate authority (Bass, 1990). Furthermore, subordinates tend to be excluded from decision-making processes (Jaeger, 1990). The leadership norm in collectivistic cultures tends to be of an autocratic nature. As a result, asking subordinates for input or explaining decisions to them is likely to result in the manager appearing incompetent or weak, respectively (Mendonca and Kanungo, 1990). Subordinates are expected, moreover, to be deferential and loyal to their bosses (Hofstede, 1980) and are expected to unquestionably do as instructed (Blunt and Jones, 1992; Ueno and Sekaran, 1992).

Australia, like many other Western countries (*e.g.* United States of America), has a culture that is individualistic and low in power distance (Thompson, 1994). In organizations in such cultures, power and command are decentralized (Smith and Tayeb, 1988) and

managers tend to be consultative, informal, and willing to both seek advice from subordinates and involve them in decision-making processes. A feature of Australian culture is that the social style is egalitarian and based on the belief that people are equal and should be treated according to their merits rather than their social class or power (Thompson, 1994). Australian subordinates are generally not in awe of their bosses or other authority figures and tend to be challenging and outspoken and are even willing to be openly contemptuous of their bosses (Robbins, Waters-Marsh, Cacioppe and Millett, 1994).

HYPOTHESIS DEVELOPMENT

The psychosomatic model of workplace bullying has been demonstrated to hold for samples of employed students in Australia (Djurkovic, McCormack and Casimir, 2006) and both white-collar and blue-collar workers in Denmark (Mikkelsen and Einarsen, 2002) and in Sweden (Hansen *et al.*, 2006). Given the aforementioned results for a sample of employed students in Australia, it is expected that the results would hold also for a sample of schoolteachers in Australia. Although no such study has been undertaken in Uganda, it seems reasonable to assume that the psychosomatic model would hold also for a sample of schoolteachers in Uganda. The psychosomatic model is arguably a 'variform universal' (Bass, 1997; Dickson, Den Hartog and Mitchelson, 2004), in that the model holds across cultures although the magnitude of the relationship between downward bullying and negative affect varies.

Downward bullying renders formal authority salient and thus differences between targets of bullying in terms of their attitudes to formal authority may influence the effects of bullying: specifically, the negative affect that it evokes in targets. As mentioned above, Australian workplace relationships are characterized by low power distance whereas

Ugandan workplace relationships are characterized by high power distance. Furthermore, power is exercised frequently, as is coercion, in organizations in high power distance societies (Kale and McIntyre, 1991). It is plausible that a consequence of high power distance in workplace relationships is that downward bullying is tolerated by those involved both directly (*i.e.* perpetrator and target) and indirectly (*e.g.* witnesses) because of their attitudes to authority: Autocratic leadership, which has been shown to be positively associated with downward bullying (Vartia, 1996; O'Moore *et al.*, 1998), is more prevalent and more readily accepted in cultures with high power distance than in cultures with low power distance (Kale and McIntyre, 1991).

It is plausible that downward bullying evokes more negative affect in targets in low power distance cultures (*e.g.* Australians) than in targets in high power distance cultures (*e.g.* Ugandans). It is argued here consequently that the magnitude of the relationship between downward bullying and negative affect is greater in low power distance cultures than in high power distance cultures. As noted above, people in low power distance cultures are likely to openly challenge and query authority figures, such as managers and bosses, and expect to be treated as equals by their superiors and thus are unlikely to tolerate or become accustomed to downward bullying. In contrast, people in high power distance cultures are more likely than people in low power distance cultures to be accustomed to and tolerate downward bullying because of their subservience to their superiors. Furthermore, the cultural norm in high power distance societies is such that the behavior of superiors is neither questioned nor challenged, so subordinates in high power distance cultures will be less perturbed by downward bullying than will subordinates in low power distance cultures. Based on the preceding discussion, the following hypothesis is proposed:

Hypothesis 1   The magnitude of the indirect effect of downward bullying on physical symptoms via negative affect will depend on culture.   Specifically, the indirect effect of downward bullying on physical symptoms via negative affect will be stronger in Australia than in Uganda.

METHOD

Participants

This study comprised two samples: i) high-school teachers in Australia; and ii) high-school teachers in the Republic of Uganda. In order to provide a clearer determination of the role of power distance in these samples, respondents were asked to identify whether the main perpetrator of the bullying was of a higher rank, the same rank, or a lower rank than themselves. Both of the samples were restricted to those cases where the perpetrator was of a higher rank than the target. The results of previous research in the workplace bullying field indicate that downward bullying is the type of bullying that is reported most commonly (Rayner and Cooper, 2003; Zapf *et al.*, 2003).

Sample 1: Australia   Of the 1293 questionnaires that were distributed to teachers in government and non-government high schools in Australia, 335 fully completed questionnaires were returned, representing a response rate of approximately 26 per cent. Approximately 60 per cent of this overall sample reported that the main perpetrator of the bullying was someone of a higher rank than the respondent, whilst 27 per cent reported that the main perpetrator was of an equal rank, and 13 per cent reported that the main perpetrator was of a lower rank. Some responses were omitted due to missing data. The final sample

thus comprised 174 schoolteachers who reported that the main perpetrator of the bullying behavior was of a higher relative rank: 113 (65%) of these were females and 61 (35%) were males. The mean age of the sample was 43.0 years (*s.d.* = 9.9 years) and the mean teaching experience was 16.2 years (*s.d.* = 10.0 years).

Sample 2: Uganda A total of 845 questionnaires were distributed to teachers in government and non-government high schools in Uganda. A total of 296 respondents returned fully completed questionnaires, representing a response rate of approximately 35 per cent. Approximately 44 per cent of the overall sample reported that the main perpetrator of the bullying was someone of a higher rank, whilst 34 per cent reported that the main perpetrator was of an equal rank, and 22 per cent reported that the main perpetrator was of a lower rank. The final sample thus comprised 133 schoolteachers who reported that the main perpetrator of the bullying behavior was of a higher relative rank: 42 (32%) of these were females and 91 (68%) were males. The mean age of the sample was 29.8 years (*s.d.* = 6.2 years) and the mean teaching experience was 5.7 years (*s.d.* = 5.1 years).

Materials

Workplace bullying was measured using Hoel and Cooper's (2000) revised 29-item version of the 'Negative Acts Questionnaire' (NAQ: Einarsen and Raknes, 1997). Respondents were asked to indicate on a five-point Likert scale (0=Never; 4=Daily) the frequency with which they had been subjected to any of the listed behaviors at their workplace in the past 12 months.

The scales for negative affect and physical symptoms were adapted from Quine (1999). Participants were instructed in the questionnaire to rate both the negative affect and the physical symptoms that they attributed to the behaviors in the bullying scale. Negative affect

was measured using 10 items which addressed ailments such as depression and anxiety: These items have been used previously to measure negative affect (Tamir and Robinson, 2004; Watson and Clark, 1984). Physical symptoms were measured using seven items (*e.g.* upset stomach, bodily twitching and headaches): These items have been used previously to measure physical symptoms (PILL: Pennebaker 1982). Neuroticism was measured using Eysenck and Eysenck's (1975) 12-item scale. A five-point Likert scale (0 = Not at all; 4 = Frequently, if not always) was used to measure all of these scales.

Procedure

In Australia, a package containing an information sheet, brief details of the study, the questionnaire, and a pre-paid return envelope was placed in the school mailboxes of teachers. In Uganda, one of the researchers distributed the information sheet and the questionnaire to teachers when visiting a school and collected the completed questionnaires directly from the respondents. An English version of the questionnaire was used in Uganda as this language is used in workplaces, including schools. The information sheet informed all teachers that participation was voluntary, that they would remain anonymous, and that no individual or school would be identified at any stage of the research.

RESULTS

A factor analysis was conducted to check the structure of the scales for negative affect and neuroticism. Each item from the two original scales had to meet two criteria to be retained: i) the item must have a loading of at least 0.50 on the appropriate scale, which is in line with Hair *et al.*'s (1998) recommendations based on sample size and number of items; and ii) the first criterion must be met in both samples. The findings from these analyses are presented in Table 1, which shows that five items from the original scales for negative affect and neuroticism met

the two criteria. The average of the relevant items shown in Table 1 was used as the overall score for negative affect and for neuroticism.

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The internal reliability of the scales for negative affect and neuroticism was examined using Cronbach's Alpha. The Cronbach's Alpha for the five-item negative affect scale is 0.88 and the Cronbach's Alpha for the five-item neuroticism scale is 0.81. According to Nunnally (1978), a Cronbach's Alpha of .70 or more indicates satisfactory reliability. Based on Nunnally's recommendation, the scales for negative affect and neuroticism have satisfactory internal reliability.

A factor analysis was not conducted on the bullying scale as the bullying items were treated as formative indicators for the following reasons: i) the items are regarded as defining characteristics of bullying rather than as manifestations of bullying; ii) the different items do not share a common theme; iii) removing an item would alter the domain of the bullying construct; iv) a change in value for one of the items does not necessitate a change in value for all of the other items; and v) the different items do not necessarily have the same antecedents and consequences (see Podsakoff, MacKenzie, Podsakoff and Lee, 2003). The items for physical symptoms were also treated as formative indicators, for the same reasons as those provided for the bullying items. The average of the items for bullying was used as an overall score for bullying whilst the average of the items for physical symptoms was used as an overall score for physical symptoms. An internal reliability analysis was not conducted for the

bullying scale or for the physical symptoms scale as it is not appropriate to conduct such an analysis for formative indicators.

Table 2 contains the correlations between the measured variables and shows the following: i) bullying has a significant negative correlation with age, gender, and teaching experience; ii) bullying has a significant positive correlation with negative affect, neuroticism, and physical symptoms; iii) negative affect has a positive correlation with age, neuroticism, and physical symptoms; and, iv) neuroticism has a significant positive correlation with physical symptoms.

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A multivariate analysis of variance was conducted to examine differences between the two samples for the following variables: bullying, neuroticism, negative affect, and physical symptoms. Table 3 contains the means for these variables for each sample. The findings from the multivariate analysis of variance revealed a significant overall multivariate effect (Pillai's Trace = 0.33, df hypothesis = 4, df error = 302, $p < .001$; Wilk's Lambda = 0.63, df hypothesis = 4, df error = 302, $p < .001$). The findings from the univariate analysis of variance tests revealed that the Ugandan sample reported significantly higher levels of bullying than did the Australian sample {$F(1, 305) = 114.7, p < .001$}. Furthermore, the univariate analysis of variance tests revealed non-significant differences between the Ugandan sample and the Australian sample in terms of neuroticism, negative affect, and physical symptoms.

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Bullying, negative affect, and physical symptoms were controlled for the effects of age, gender, teaching experience, and neuroticism. The controlled versions of bullying, negative affect, and physical symptoms were used in all of the following analyses.

According to Muller, Judd and Yzerbyt (2005), moderated mediation can be examined through the use of three multiple regression analyses: i) the dependent variable (*i.e.* physical symptoms) is regressed on the independent variable (*i.e.* bullying), the moderator (*i.e.* culture), and the product-term of the independent variable and the moderator (*i.e.* Bullying x Culture); ii) the mediator (*i.e.* negative affect) is regressed on the independent variable, the moderator, and the product-term of the independent variable and the moderator; and, iii) the dependent variable is regressed on the independent variable, the moderator, the product-term of the independent variable and the moderator, the mediator, and the product–term of the mediator and the moderator (*i.e.* Negative Affect x Culture). All of the variables, except for physical symptoms, were standardized prior to creating the product-terms in order to reduce the correlations between the product-terms and their constituents.

The findings from the three regression analyses are presented in Table 4. As shown in Table 4, the first regression reveals a non-significant interaction between bullying and culture on physical symptoms and that both bullying and culture have significant unique effects on physical symptoms. The second regression reveals a significant interaction between bullying and culture on negative affect. To examine this interaction effect, the correlation between bullying and negative affect was examined separately for each sample. These correlation analyses showed that although the correlation between bullying and negative affect is positive

and significant for both samples, the correlation between bullying and negative affect is stronger for the Australian sample ($r = .48$, $p < .001$) than for the Ugandan sample ($r = .28$, $p < .01$). The third regression analysis, in the procedure outlined by Muller *et al.* (2005), revealed that negative affect has a significant unique effect on physical symptoms whilst the effects of bullying on physical symptoms are moderated by culture. The findings from the three regression analyses indicate moderated mediation.

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To demonstrate the moderated mediation effect, the psychosomatic model of workplace bullying was examined separately for the two samples using the procedure outlined by Baron and Kenny (1986). The findings from these analyses are presented in Table 5 and show the following: i) the correlation between bullying and negative affect is stronger for the Australian sample than for the Ugandan sample; and, ii) negative affect fully mediates the relationship between bullying and physical symptoms for the Australian sample whereas it partially mediates the relationship between bullying and physical symptoms for the Ugandan sample. In other words, although the psychosomatic model of bullying holds for both samples, bullying has a stronger relationship with negative affect for the Australian sample than for the Ugandan sample, and has a significant direct effect on physical symptoms for the Ugandan sample but not for the Australian sample: Hypothesis 1 is thus supported.

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DISCUSSION

The objective of this study was to undertake a cross-cultural examination of the psychosomatic model of workplace bullying focusing on downward bullying. The psychosomatic model was extended by including culture as a moderator of the relationship between bullying and negative affect, based on the premise that the effects of bullying on negative affect vary between cultures due to differences in attitudes to formal authority in workplaces.

As noted above, the Ugandan sample reported being subjected to more downward bullying than did the Australian sample. This finding accords with previous research which has shown that East African countries, such as Uganda, have higher power distance than does Australia and that autocratic leadership and authoritarianism are more likely in higher power distance cultures than in low power distance cultures. Autocratic leadership and authoritarianism are associated with workplace bullying (Vartia, 1996; O'Moore *et al.*, 1998; Hoel, Glaso, Hetland, Cooper and Einarsen, 2010). For instance, autocratic leaders are arguably more likely than are consultative leaders to openly display anger towards subordinates and to assign subordinates to roles against their will.

The psychosomatic model is supported for both the Australian and the Ugandan samples, which is consistent with previous findings using Australian, Danish, and Swedish samples. Furthermore, the relationship between bullying and negative affect is stronger for the Australian sample than for the Ugandan sample. Moreover, negative affect fully mediates the relationship between bullying and physical symptoms for the Australian sample and partially mediates this relationship for the Ugandan sample. These findings support the proposition that the psychosomatic model is a variform universal.

Although the Ugandan sample reported higher levels of bullying than did the Australian sample, the two samples did not differ in terms of the levels of negative affect that they attributed to being bullied. This finding indicates that the Australian sample is more sensitive to being bullied than is the Ugandan sample in that the Australian sample reported lower levels of bullying but attributed similar levels of negative affect to being bullied. One possible reason for the lower effect of bullying on negative affect amongst the Ugandan sample is that some bullying behaviors may be regarded as normal leadership by subordinates in high power distance cultures thereby diminishing the negative impact of such behaviors. With regards to the direct effect of bullying on physical symptoms amongst the Ugandan sample, when bullying behaviors are perceived as legitimate leadership behaviors, targets are likely to strive to appease the leader by exerting extra effort and thus may experience not only negative affect but also role-based stress and/or interpersonal stress, which may subsequently lead to physical symptoms.

Theoretical and practical implications

There are theoretical implications that arise from the findings of this study. Firstly, the psychosomatic model of workplace bullying has been shown to apply in another culture (*i.e.* Uganda) and in another occupational setting (*i.e.* schoolteachers). Secondly, the finding that the psychosomatic model of workplace bullying is a variform universal has theoretical implications in that it shows that culture plays an important role in workplace bullying and its effects on targets. Thirdly, the effects of neuroticism on bullying, negative affect, and physical symptoms were controlled also has theoretical implications in that it demonstrates that the psychosomatic model of bullying operates independently of neuroticism. Finally, the effects of bullying on negative affect depend on cultural factors in that schoolteachers in

Uganda reported higher levels of downward bullying than did schoolteachers in Australia but did not report higher levels of negative affect.

The findings provide clear evidence of the need for action to be taken to curb downward bullying in the workplace and thus have policy implications for governments and for organizations. Ways in which bullying can be countered include the development of anti-bullying legislation by governments and the development and enforcement of anti-bullying policies by organizations. Additionally, organizations can address downward bullying by focusing on creating organizational cultures in which bullying is anathema to all organizational members, particularly to those who occupy supervisory positions. Such cultures can be created by informing all staff, but particularly those who are in supervisory roles, of the various behaviors that constitute bullying and by training supervisors/managers to work harmoniously and effectively with subordinates. For schools, principals and senior teachers should be provided with such training.

The effectiveness of employees and organizations would undoubtedly be reduced by downward bullying. Specifically, the ensuing negative affect and physical symptoms would hamper employees from optimally performing their duties. Furthermore, targets may adopt avoidance strategies, such as absenteeism and turnover, to avoid being bullied and/or to cope with the negative affect and the physical symptoms that they attribute to being bullied. In people-focused occupations, such as teaching, these difficulties may be compounded in that staff may be dealing simultaneously with various problems originating from management (*e.g.* bullying) and 'clients' (*e.g.* student disengagement).

Downward bullying is especially problematic as targets may not be able to approach their supervisors for assistance when the supervisor or someone higher in the hierarchy is the perpetrator. Such scenarios highlight the need for the availability of an independent party

(*e.g.* government body responsible for schools or employment relations) to which targets of bullying can refer for assistance.

There is Occupational Health and Safety legislation in Australia that addresses workplace bullying and there have been government-sponsored campaigns in recent years to raise public awareness of the non-acceptability of workplace bullying. This legislation encompasses both the physical and the psychological aspects of health and safety in employment. In contrast, the Occupational Safety and Health legislation in Uganda does not address bullying in the workplace, nor have there been government-sponsored campaigns that deal with workplace bullying. This legislation focuses on the physical aspects of safety and health in employment. These differences between Australia and Uganda would arguably also result in there being less workplace bullying in Australia than in Uganda.

Limitations and Future Research

As this study was limited to schoolteachers, the nature of the sample could be considered a limitation in terms of the generalizability of the findings to employees in other occupations. Future research could therefore examine these relationships in other occupational settings. A second possible limitation is the reliance on self-report data. One problem with self-report data is that validation is difficult. Nevertheless, self-report data are vital in such research as the perceptions of the targets of the bullying behavior are the core issue (Rayner *et al.*, 2002). Another limitation with this study was that all of the data (*i.e.* both the dependent and the independent variables) were obtained from a single source. A potential problem with obtaining data from a single source is multi-collinearity between the measured variables. Data from other sources could be used to supplement self-report data. For example, when testing the psychosomatic model of bullying, data from the medical records of targets could be used in addition to self-report data. Only one aspect of personality (*i.e.* neuroticism) was

accounted for in this study. Although some characteristics of victims have been examined with respect to the psychosomatic model of bullying (*e.g.* self-efficacy: Mikkelsen and Einarsen, 2002; neuroticism: Djurkovic *et al.*, 2006) future studies should consider other personality dimensions (*e.g.* extraversion and psychotocism) that may influence the psychosomatic model of bullying.

It is noteworthy that Ugandans have a higher tendency than Westerners to attribute their health – both good health and poor health – to supernatural forces (*e.g.* God, curse, spiritual healers) (Furnham and Baguma, 1999), which has implications in terms of the attribution of negative affect and/or physical symptoms to various sources. The participants were instructed, however, to indicate negative affect and physical symptoms that they attributed only to bullying. Similarly, beliefs in such supernatural forces may also influence the target's perceptions and attributions of their circumstances. Finally, the cross-sectional design of the study may be considered to be a limitation. A longitudinal design would provide a more comprehensive understanding of the nature of the relationships (*e.g.* causal relationships) between the variables in the model, such as the effects over time of bullying on the psychological and physiological health of the targets.

Concluding remarks

This study has made the following contributions to the literature on workplace bullying. Firstly, the psychosomatic model of workplace bullying was applied to downward bullying. Secondly, the psychosomatic model of workplace bullying was examined cross-culturally for the first time. Finally, the effects of neuroticism on the psychosomatic model of workplace bullying were controlled. The findings showed that the psychosomatic model of workplace bullying is a variform universal in that downward bullying has a greater effect on negative

affect amongst schoolteachers in Australia than amongst schoolteachers in Uganda. The differential effects of downward bullying on negative affect were posited to be due to cultural differences in both attitude to authority and leadership styles.

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Table 1 Factor loadings for Negative Affect and Neuroticism by Country

	Australia		Uganda	
	Factor 1	Factor 2	Factor 1	Factor 2
Negative Affect 1	.87			.66
Negative Affect 2	.83			.73
Negative Affect 3	.73			.53
Negative Affect 4	.83			.77
Negative Affect 5	.81			.53
Neuroticism1		.63	.70	
Neuroticism2		.65	.65	
Neuroticism3		.81	.63	
Neuroticism4		.64	.71	
Neuroticism5		.68	.64	

Table 2 Means (S.D.), Correlations[a] for the Measured Variables

	Mean (s.d.)	1	2	3	4	5	6
1. Age	37.3 (10.7)						
2. Gender	--------	.06					
3. Teaching experience	11.7 (9.8)	.85	.05				
4. Bullying	0.7 (0.6)	-.28	-.26	-.27			
5. Neuroticism	1.7 (0.9)	.00	.03	.03	.15		
6. Negative Affect	1.6 (1.1)	.13	-.01	.10	.32	.32	
7. Physical Symptoms	1.0 (0.8)	.08	-.03	.05	.40	.34	.75

[a] Significance: $r > .09$, $p < .05$; $r > .13$, $p < .01$; $r > .17$, $p < .001$.

Gender: 1 = male, 2 = female.

Table 3 Means (standard deviations) for the measured variables by Country

	Australia	Uganda
Bullying	0.47 (0.36)	1.05 (0.59)
Neuroticism	1.66 (0.84)	1.65 (0.95)
Negative Affect	1.68 (1.18)	1.59 (0.90)
Physical Symptoms	1.00 (0.90)	1.05 (0.77)

Table 4 Least Squares Regression Results for Moderated Mediation

Predictors	Equation 1 (criterion PS)		Equation 2 (criterion NA)		Equation 3 (criterion PS)	
	b	t	b	t	b	t
Bullying (B)	0.46	7.86***	0.45	7.59***	0.12	3.23**
Culture (C)	0.06	1.15	0.09	1.58	0.00	0.08
B x C	0.04	0.76	0.20	3.54***	-0.09	-2.64**
NA	-----	-----	-----	-----	0.51	15.07***
NA x C	-----	-----	-----	-----	0.06	1.82

PS = physical symptoms, NA = negative affect

** $p < .01$, *** $p < .001$.

Table 5 Least Squares Regression Results for Mediation Analyses by Country

Predictors	Equation 1 (criterion PS)		Equation 2 (criterion NA)		Equation 3 (criterion PS)	
	b	t	b	t	b	t
Australia						
Bullying	0.77	5.26***	1.23	6.46***	0.08	0.69
Negative Affect	-----	-----	-----	-----	0.56	14.11***
Uganda						
Bullying	0.64	6.54***	0.43	3.54**	0.45	5.24***
Negative Affect	-----	-----	-----	-----	0.44	7.51***

PS = physical symptoms, NA = negative affect.

** $p < .01$, ***$p < .001$.