

Between a Rock and a Hard Place

*A Cross-sectional and Longitudinal Investigation of the
Psychosomatic Consequences of Witnesses to Workplace Bullying*

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PREFACE

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ABSTRACT

This present study is a sub-project of the Danish research project *Bullying and Harassment at work: Prevalence, Risk factors, Consequences, Prevention, and Rehabilitation 2006-2009* which is a prospective research project initiated by the Danish National Research Centre for the Working Environment. The data material originates from a comprehensive base-line and follow-up questionnaire administered in 2006 and in 2008. The purpose of this quantitative study was to assess the extent to which bullying at work would affect those who were not experiencing the direct impact of the bullying behaviour, but who reported to witness the bullying of others in their work unit. Both a cross-sectional and a longitudinal methodological approach were employed in order to investigate both the short- and long-term effects of witnessing bullying at work. In line with results obtained in previous cross-sectional studies, it was expected that the non-bullied witnesses to workplace bullying would experience elevated levels of stress, burnout, psychosomatic symptoms, and state negative affect, and lower levels of general health than a control group. Due to the prospective design of the Workplace Investigation, it was also possible to assess the potential long-term effects of being a witness to bullying at work by comparing those who reported to witness bullying at both T1 and T2 (i.e long-term witnesses) to a control group, previous witnesses, and new witnesses at T2. The results from the cross-sectional approach revealed that the self-declared witnesses to bullying in 2006 and in 2008 were significantly more affected with regards to all the respective measures than the control group in 2006 and in 2008. The longitudinal analysis, however, yielded both supportive and contradictive results in terms of the stated hypotheses.

INTRODUCTION

Besides the family and friends, colleagues constitute one of the most important reference points for the social identity of adult individuals. People's self-esteem is to a large degree attached to their job and occupational position, and thereby highly dependent on the psychosocial work climate and how they are treated by their co-workers (Björkqvist, 2001). The phenomenon of workplace bullying is a serious form of psychological aggression that should be taken serious by every management (e.g Niedl, 1996). The presence of bullying and negative behaviours at work is identified as a significant source of social stress that constitutes a severe threat to people's identity and feeling of professional competence (Zapf, Knorz, & Kulla, 1996). Being exposed to this form of psychological aggression is highly associated with stress reactions and psychosomatic problems (Agervold & Mikkelsen, 2004). Moreover, some investigations have indicated that not only the direct targets of bullying, but also the non-involved employees in the work unit might to some extent be affected by the negative impacts of bullying, reflected in terms of reduced psychological and physical well-being and elevated levels of stress (e.g Hoel, Faragher, & Cooper, 2004; Hansen, Hogh, Persson, Karlson, Garde, & Orbaek, 2006; Lutgen-Sandvik, Tracy, & Alberts; Rayner, 1999, 2000; Vartia, 2001).

The research literature covering bullying at work has emphasized that stressful and unfavourable work conditions can be held accountable for the emergence of collegial bullying. Studies have revealed that poor leadership style, high levels of role conflict, time pressure, and lack of efficient communication and information, are factors that severely increase the risk of workplace bullying (e.g Einarsen, Raknes, Matthiesen, & Hellestøy, 1994; Vartia, 1996; Zapf et al., 1996). Furthermore, a demanding work environment that is accompanied with low job control and low collegial support is also found to precede bullying and negative interactions at work (Tuckey, Dollard, Hosking, & Winefield, 2009). This body of research accentuates the argument that organizations should strive towards establishing a healthy, safe, and supportive psychosocial work environment based on mutual respect and efficient communication in order to prevent the occurrence of bullying and hence the subsequent health consequences that are found to affect both the targeted and non-targeted employees.

The primary aim of this thesis is to investigate the extent to which bullying at work might affect those who are not experiencing the direct impact of the negative behaviour, but who are witnessing the bullying of others in one way or another. Whereas research conducted

within the field of workplace bullying tend to focus on the negative effects of the victims of bullying, less is known about the potential health and well-being outcomes of the witnesses to workplace bullying. In so far as bullying is often conceptualized as an escalating process in which an initial frustration or disagreement, if left unresolved, over time will evolve into a full-blown interpersonal conflict (Leyman, 1996; Zapf & Gross, 2001) which tends to gradually involve an increasing number of employees (Zapf et al., 1996), it seems reasonable to suggest that all employees within the work unit are to some extent involved in or affected by this form of psychological aggression. The second aim of this thesis is to explore the extent to which observing bullying entails long-term impacts with respect to psychosomatic health and well-being outcomes.

This thesis constitutes a sub-project of the Danish research project "*Bullying and Harassment at work: Prevalence, Risk factors, Consequences, Prevention, and Rehabilitation 2006-2009*"¹ which is a prospective research project initiated by the Danish National Research Centre for the Working Environment². The data material originates from the comprehensive questionnaire under the name "*Workplace Investigation 2006/2008*"³ which was administered at two occasions, in 2006 (baseline), and in 2008 (follow-up), in which one of the main intentions was to measure various aspects of the psychosocial work environment of Danish employees, in order to uncover the risk factors and possible antecedents to bullying and negative behaviour at work. The research questions in this master thesis are thus based upon the scales and measures applied in the questionnaire, whereas the data material is derived from the data base comprising the participants' responses to the various scales and measures on the two administrations. The hypotheses and their underlying theories will be presented in a later section of this thesis.

Before the experience of witnesses is thoroughly explored, a brief introduction to the key elements of workplace bullying in terms of its nature, antecedents, content, and consequences is presented in the next section.

The Concept of Workplace Bullying

Defining workplace bullying. The phenomenon of workplace bullying has received a great deal of attention in the past decades after the first study on bullying at work was presented by Brodsky in 1976. Workplace bullying is often conceptualized as an escalating

¹ "Mobning og chikane på arbejdspladsen. Udbredelse, risikofaktorer, konsekvenser, forebyggelse og rehabilitering 2006-2009"

² Det Nationale Forskningscenter for Arbejdsmiljø (NFA)

³ "Arbejdspladsundersøgelsen 2006/ 2008"³

conflict involving distinct stages or phases (e.g Björkqvist, 1992; Glasl, 1982). According to this perspective, the initial phases are characterized by subtle and indirect aggression (i.e gossiping), while the following stages involve more direct and verbalized confrontations in which the target is gradually subjected to social rejection, whereas in the last phases of the conflict, the major goal of the perpetrators is to more or less force the victim out of the workplace (Björkqvist, 1992; Leyman, 1996). Workplace bullying thus refers to an escalating process in which a person repeatedly and over a long period of time (i.e six months) is exposed to negative and humiliating acts performed by one or several people in the workplace that eventually render the person unable to defend him or herself from the misconduct (Einarsen et al., 1994; Einarsen, Hoel, Zapf, & Cooper, 2003).

The definition of bullying is relatively strict in so far as the occurrence of a single event or conflict between two equally powerful or strong parties will not fulfil the defining criteria of bullying. In terms of measuring the prevalence of workplace bullying, the most common method of assessment nowadays is to provide the participants with both the standardized negative acts questionnaire (NAQ; Einarsen et al., 1994), in which participants are asked to rate how often they have been exposed to a variety of work-related negative acts within the past six months, alongside a formal definition of bullying. The respondents are then presented with a question concerning to what degree they have been exposed to bullying within the past six months. This method tends to yield a prevalence rate of frequent exposure to bullying ranging between 2% and 4% of the work force (Einarsen & Skogstad, 1996; Zapf, Einarsen, Hoel, & Vartia, 2003; Agervold & Mikkelsen, 2004). Less severe cases of bullying is found to be experienced by eight to ten per cent of the working population, while occasional exposure to negative acts might affect more than twenty per cent of the employees in many organizations (Zapf et al, 2003).

The nature of workplace bullying and the identity of victims and perpetrators. As previously indicated, bullying at work is often understood in terms of being a gradually escalating process (Björkqvist, 1992; Einarsen, 1999, 2000; Zapf & Gross, 2001) in which an initially unresolved conflict or frustration between co-workers, or between employees and supervisors over a job-related or person-related issue eventually leads to negative and aggressive behaviour that gradually puts the target in an inferior position (Leyman, 1996; Nielsen, Matthiesen, & Einarsen, 2008). It is important to stress that one or several negative acts per se do not constitute bullying in their own rights. Hence, it is only when the negative acts are systematically and frequently directed at a targeted individual over time that one

might begin to classify the situation and its entailed aversive behaviour as bullying (Einarsen et al., 2003). As previously noted, two equally powerful individuals or parties might be engaged in a long-term conflict regarding a task-related or person-related problem, but this is not considered bullying unless one of the involved individuals ends up in an inferior and powerless position in which the person becomes unable to avoid and defend against the negative interpersonal attacks (Zapf & Einarsen, 2005).

Besides being dispute-related, bullying can also be predatory in nature, in which a random individual is targeted in order for the perpetrators to demonstrate their formal or informal power (Einarsen, 1999). Furthermore, bullying behaviours might differ in terms of being direct or indirect, where the former may consist of rumours, teasing, and threats, while the latter can involve social exclusion or the withdrawal of important and necessary work-related information (Hansen et al., 2006; Einarsen et al., 1994; Hoel et al., 2004). However, a well-known feature of workplace bullying is that the targeted employees are most likely to experience subtle, passive, and subversive undermining of their personal and professional standing (Rayner & Cooper, 2006). According to Rayner and Cooper (2006), negative acts that involve covert non-verbal attack of work-related tasks, as exemplified by not including the target in informal or formal briefings, represents the most prevalent category of bullying behaviour. Such covert behaviours are hard to pinpoint and identify, and are thus harder to complain about than more overt and tangible behaviours. Although bullying behaviours are often directed towards the victim's work performance, persistent criticism of task-related work can none the less often be perceived as an attack on the individual's personal sphere (Rayner & Cooper, 2006). Negative behaviours that attack the person per se, that involve social exclusion or marginalization, and that are directed toward the private sphere of the individual have shown the strongest and most consistent correlations with depression and psychosomatic health reactions of victims (Hoel et al., 2004; Zapf et al., 1996).

Research has indicated that the risk of becoming a victim is independent of organizational status and hierarchical levels (Hoel, Cooper & Faragher, 2001). Although bullying may occur in all job sectors, employees in the public sector seem to be more at risk than people working in the private sector (Zapf et al., 2003). None the less, research has not yet managed to disclose consistent demographic risk factors and differences in terms of gender, age, or position in the hierarchy (Rayner & Cooper, 2006). However, some studies claim that the targets display a somehow similar personality profile, involving high values of social anxiety and neuroticism (Einarsen et al., 1994; Glaso, Matthiesen, Nilsen, & Einarsen, 2007) and low values of extraversion and independence (Coyne, Seigne, & Randall, 2000). In

so far as the assessment of the targets personality profiles is mostly undertaken after they have been subjected to long-term victimization, the predictive value of personality as a causal antecedent and a risk factor of being a victim of bullying should be interpreted with great caution. Reflecting the arguments by Vie, Glaso, & Einarsen (2010), victims of bullying might display a specific personality composition, such as elevated levels of trait anger and trait anxiety, as a direct result of the victimization process, and not the other way around.

Both supervisors and co-workers are found to occupy the role of perpetrator, and in some cases the bullies may constitute clients and sub-ordinates. In Britain and Australia, the bullying is often of a top-down character, in which many employees first and foremost report being bullied by a supervisor or by someone of a higher rank (Hoel et al., 2001; Rayner & Cooper, 2006). In contrast, Scandinavian studies have revealed that co-workers are as often identified as the perpetrators of bullying as people in superior positions (Einarsen & Skogstad, 1996). From a victim perspective, targets of bullying often feel that everyone in the entire work unit is systematically teaming up against them because they are at the receiving end of the accumulated body of negative acts (Zapf & Einarsen, 2005). However, the personal contribution from each perpetrator may be small and insignificant, and may not even be perceived by the accused individual as intentional or systematic acts of bullying towards a particular person (Zapf & Einarsen, 2005). Hence, the task of identifying the perpetrators is not always a straight forward and easy mission.

Causal antecedents to workplace bullying. Within the literature on workplace bullying, there are two major hypotheses that have attempted to address the causal antecedents to bullying at work. Research conducted in light of the work environment hypothesis suggests that bullying is elicited by poor organization and stressful factors within the work environment (Hauge, Skogstad, & Einarsen, 2007), while research based on the personality disposition hypothesis investigates whether specific personality traits may predispose people to become easy targets of bullying (Coyne et al., 2000). As previously noted, research has revealed that bullying victims tend to display a somewhat similar personality profile in terms of elevated scores on the neuroticism dimension and lower scores on the extraversion trait dimension than non-victims (Glaso et al., 2007), but one should nevertheless be careful in drawing preliminary conclusions about the causal relationship between personality traits and exposure to bullying. As previously mentioned in a previous section, Leyman (1996) has suggested that victims display higher levels of neuroticism and

lower levels of extraversion due to the experience of being victims of bullying, and not the other way around.

The work environment hypothesis has received more recognition and support than the personality hypothesis by the fact that not only victims but also those not directly affected by bullying have been found to report a more negative perception of the working environment, more role conflict, and poorer leadership behaviour than those not exposed to bullying (Hoel & Salin, 2003). As such, it is important to stress that bullying does not arise in a vacuum, but is often elicited by a variety of psychosocial factors in the workplace. Research has identified that some of the organizational antecedents of bullying might comprise factors such as poor communication flow, a negative psychosocial climate and culture, role conflict and task ambiguity, work stress, and laissez-faire or authoritarian leadership styles (Vartia, 1996; Hoel & Salin, 2003; Agervold & Mikkelsen, 2004; Einarsen, Aasland, & Skogstad, 2007; Skogstad, Einarsen, Torsheim, Aasland, & Hetland, 2007). As such, empirical evidence indicates that bullying most often occurs in organizations characterized by structural deficiencies in terms of a poor organization of work tasks and responsibilities, and a weak leadership style. Further, occupational bullying has not only been found to create both financial and legal problems for organizations (Hoel, Rayner, & Cooper, 1999), but is also highly associated with decrements in job performance, morale, and health, and with increased absenteeism and turnover amongst all employees in the work unit (Rayner & Cooper, 1997).

The consequences and effects of bullying. The fact that workplace bullying is detrimental to health and well-being has been clearly established through extensive research during the past decades. Workplace bullying has been conceptualized as a social stressor because it affects the interpersonal interaction among all the employees within the work unit (Zapf et al., 1996). Victims of bullying are found to report severe psychological stress symptoms and physiological health consequences after being subjected to prolonged victimization and stigmatization (Einarsen et al., 1994; Leymann, 1996; Mikkelsen & Einarsen 2002a; Zapf et al., 1996). Victims typically report high levels of anxiety, depression, and increased somatic and psychological symptoms, while also displaying a high level of negative affectivity (Hansen et al., 2006). Moreover, victims tend to report feelings of shame, diminished self-esteem, psychosomatic tension, and suicidal thoughts (Janoff-Bulman, 1989; Niedl, 1996; Zapf et al., 1996), and they often engage in self-blame for their mistreatment (Hallberg & Strandmark, 2006). In general, victims tend to perceive the world as less meaningful, manageable, and controllable (Mikkelsen & Einarsen, 2002b), which indicate

that the experience of bullying has an impact on people's basic assumptions and schemas about the world and themselves, which in turn is found to be highly correlated with impaired psychosomatic health (Feldt, 1997; Feldt, Kinnunen & Mauno, 2000).

Enduring encounters with negative behaviours provide a threat to the person's self-esteem, identity, and feeling of professional competence, which may result in stress reactions and psychosomatic problems (Agervold & Mikkelsen, 2004). Moreover, victims often report being in a constant fear of being exposed to bullying behaviours, which gradually lead them to avoid contact and interaction with their co-workers (Hallberg & Strandmark, 2006). The social support scores of bullying victims has been located two standard deviations below the scores of a reference group (Zapf et al., 1996). Furthermore, victims who report lower scores on social support also tend to report higher levels of mental health problems than victims who receive more support (Einarsen et al., 1994). Such findings highlight how detrimental the experiences of social exclusion and rejection can be in terms of health and well-being and how collegial support can act as a buffer in terms of reducing the mental distress of the victims. It is found that not only recent victims show signs of mental and psychosomatic distress, but also people who have been bullied in the past report to be severely affected by their experiences even years after the incidents occurred (Hoel et al., 2004). As such, bullying should be perceived as a social stressor that can elicit serious psychosomatic ill-effects and distress in exposed employees.

Witnesses to Workplace Bullying

Innocent co-victims or passive co-perpetrators?

“Observers will not act if they do not know what to do, feel powerless and helpless themselves, don't see any reward, or fear punishment if they help” (Cohen, 2001:16).

In terms of bullying at work, witnesses often constitute a large group (c.f Hoel et al., 2001; Lutgen-Sandvik, 2006) a group which is found to comprise between 9% (Vartia, 2001) and 40% of the work force (Rayner, 2000). This group represents those members of the work unit who are themselves not the direct targets nor the direct perpetrators of bullying behaviour, but who never the less are frequently classified as either silent “co-perpetrators” (Bauman, 2003; Cohen, 2001) or as “secondary victims” (Barling, 1996), two terms that highlight how differently witnesses to psychological aggression at work have been portrayed in the research literature. Research on the topic of workplace bullying has indicated that

witnesses have a tendency to initially perceive the victims as defenceless and suffering individuals, but as time goes by, they come to perceive the targets as difficult and neurotic co-workers in which bullying is perceived as no more than a fair reaction to their provocative and deviant behaviour (Einarsen et al., 1994). Victims have reported that as the bullying proceeded over time, people who previously supported them suddenly backed away and left the victims to feel completely abandoned and isolated (Hallberg & Strandmark, 2006; Tracy, Lutgen-Sandvik & Alberts, 2006). The avoidant behaviour displayed by the previously supportive colleagues has been explained as a way for the co-workers to defend themselves from the unpleasant emotional states characterized by feelings of guilt, anger, or despair (Tehrani, 2004). As a result, and instead of offering their support, the co-workers begin to question the reality and severity of the victims' stories and experiences (Tehrani, 2004). As suggested by Hoel et al. (2004), colleagues might also worry that friendly interaction with a victimized and stigmatized target of bullying could destabilize their own standing and safety within the work group. Moreover, a qualitative investigation into the subjective experiences and reactions of witnesses to workplace bullying revealed that witnesses tend to differ in terms of how they perceive the victims of bullying. Some were found to empathize with and support the victim, while others perceived and classified the victims as deviants from the group norms, in which the targets' lack of social skills were held responsible for their victimization (Bloch, 2011, in press). The majority of the witnesses, however, were found to oscillate between holding empathic and compassionate perceptions of the victims while simultaneously appraising the targets' social behaviour as deviating from the established norms in the work unit (Bloch, 2011). Nevertheless, most of the witnesses disapproved of bullying as an appropriate way of sanctioning and punishing non-conforming group members.

Damned if you do, damned if you don't. Although workplace bullying should not be juxtaposed with bullying behaviour that takes place during the school years with respect to its content and nature, much research on bullying at work has been inspired by research covering school bullying (e.g. Björkqvist, 1992). The passive co-perpetrator view has received support from the vast research on school bullying which has emphasized that the mere presence of peers to acts of bullying tend to reinforce the behaviour of the aggressors no matter if they contribute as active participants or are passive observers to the event (O'Connell, Pepler & Craig, 1999). A lack of intervention from the peer group may as such be interpreted as indirect support and acknowledgment of the perpetrators' actions. Although a majority of children usually report that witnessing bullying is unpleasant, and that they admire those who

are courageous enough to intervene, these attitudes are not always reflected in their actual behaviour (Aboud & Joong, 2008). Children have been found to overestimate their own hypothesized pro-social behaviour and underestimate their actual participation in the bullying act (Salmivalli, Lagerspetz, Björkqvist, Osterman, & Kaukianinen 1996). An investigation by O'Connell et al., (1999) revealed that over 40 % of the children had a tendency to report an inclination to intervene, whereas only about half of them were actually found to interrupt the bullying behaviour on behalf of the target.

Among those witnesses who report a willingness to assist the targets of workplace bullying, many are none the less found to refrain from action because they lack the courage to do so or are afraid of becoming a target themselves (Bloch, 2011; Rayner, 1999, 2000). Those who decide to speak up on behalf of others or in response to wrongdoings at work are often referred to as whistleblowers (Near & Miceli, 1985). Whistle-blowing is defined as “(...) the disclosure by organization members (former or current) of illegal, immoral or illegitimate practices under the control of their employers, to persons or organizations that may be able to effect action” (Near & Miceli, 1985:5). Research into this field has revealed that whistleblowers tend to report lower job satisfaction than other co-workers, and are significantly more at risk of being exposed to negative acts and bullying behaviours than non-whistle-blowers (Bjorkelo, Einarsen, Nielsen, & Matthiesen, 2010). The act of blowing the whistle or intervening on behalf of a victim can often be perceived as a violation of the established collegial norms in the work unit (Bloch, 2011). In terms of publicly supporting the victims of bullying by confronting the perpetrators or reporting the bullies' behaviours to the management, whistle-blowers might (although not deliberately) in fact highlight and emphasize the assumption that the victims of bullying are incapable of defending themselves, further contributing to the stigmatization of victims as weak and defenceless individuals (Bloch, 2011). As such, an initial pro-social act might in stead exacerbate the low social standings of the victims and actually make their situation worse, while also putting the whistle-blowers at risk of retaliation for (inappropriately) accusing their colleagues of bullying behaviours.

Leaning towards a co-victimization perspective. Inaction on behalf of those who observe the misery of others is often interpreted and explained as bystander apathy (e.g Latané & Darley, 1969, 1970), but this passivity could also be understood through the lenses of a cost-benefit evaluation (Wenik, 1985) or an approach-avoidance conflict (e.g Lewin, 1935, described in Elliot, 2006). From this perspective, two conflicting goals or motives entail

an internal conflict in the minds of the beholder, which is accompanied with an emotional state of ambivalence that in itself is a source of stress (Elliot & Sheldon, 1998). As such, observers of bullying might experience that their approach tendencies (i.e pro-social attitudes towards helping the victim) are in conflict with their self-serving avoidance tendencies (i.e a fear of retaliation from the bully). Observers who experience this state of cognitive conflict may to the outside world appear as passive and lethargic bystanders while they in fact are actively trying to solve and manage the contradicting motives and cognitions, while also having to cope with the stressful emotions that this conflict entails (Aboud & Joong, 2008).

Generating the Hypotheses from a Co-victimization Perspective

Applying a cross-sectional perspective. From a co-victimization point of view, a work environment that to a large extent is characterized by social stress and unpredictable and hostile interpersonal interaction (i.e bullying), might take its toll on everyone in the work unit (e.g Parzefall & Salin, 2010). The co-victimization perspective is supported by investigations yielding that the observers of bullying report significantly more stress symptoms and elevated levels of general stress than employees whom are not acquainted with bullying at work (Rayner, 1999, 2000; Vartia, 2001). As such, there is reason to believe that witnesses to bullying will report elevated levels of stress and stress-related symptoms than people who report to be unacquainted with bullying at work. Thus, the first hypothesis of this thesis is as follows:

H1: The participants who report being a witness to workplace bullying either in 2006 or in 2008 will report higher levels of stress and somatic and cognitive stress symptoms than their respective control groups in 2006 and 2008.

The concept of stress has been defined and conceptualized in numerous ways. According to Spielberger, Vagg, and Wasala (2003), stress is conceptualized as a multifaceted process that involves the sources of stress that people encounter at work, the employees' perceptions and appraisals of the stressors, and the emotional reactions that are elicited in cases where the stressors are appraised and perceived as threatening. From a transactional perspective, stress is defined and conceptualized as the imbalance between situational demands and available resources (Lazarus, 1991). Hence, people experience stress when situational demands are perceived to exceed their available coping resources and

threaten their well-being (Lazarus & Folkman, 1984; Lazarus, 1991). According to Motowidlo, Packard, and Manning (1986), stress is aligned with unpleasant emotional and physical experiences that involve affective states such as fear, sadness, anxiety, anger, and irritation. In this present study, stress will be conceptualized as the experience of being in a state which is characterized by a combination of increased emotional, psychological, and physiological arousal, displeasure, and general unease (Motowidlo et al., 1986; Warr, 1990). In so far as Motowidlo et al., (1986) claim that subjective experiences of stress caused by stressful events that occur in the workplace lead to aversive affective states, it seems reasonable to assume that witnesses' experience of stress will be accompanied by elevated negative emotional states.

H2: Witnesses to workplace bullying in 2006 or 2008 will report higher levels of state negative affect than the control group.

In accordance with the comprehensive psychological stress literature which argues that psychological stress is closely related to impaired health and reduced well-being (e.g Kiecolt-Glaser, McGuire, Robles, & Glaser, 2002), another aim of this study is to investigate the extent to which witnesses will report a lower general health condition and more burnout than a control group. Work-related burnout has been conceptualized and defined as “a prolonged response to chronic emotional and interpersonal stressors on the job” (Maslach, Schaufeli, & Leiter, 2001:397), which is manifested in terms of psychological and physical exhaustion involving depleted emotional resources and decreased motivation (Schaufeli, 2003).

H3: Witnesses to workplace bullying in 2006 or 2008 will report lower general health than the control group.

H4: Witnesses to workplace bullying in 2006 or 2008 will report higher levels of burnout than the control group.

Applying a longitudinal perspective. These first four hypotheses are presented in order to replicate previous cross-sectional investigations covering the consequences of observing bullying at work (e.g Hoel et al., 2004; Rayner, 1999, 2000, Vartia, 2001). However, the prospective design of the Workplace Investigation further allows for a more thorough exploration of the potential long-term effects of witnessing workplace bullying. Besides

applying the above-mentioned conceptualization of stress, the thesis will furthermore apply a theoretical framework that addresses the relationship between stress and health which incorporates the assumption that sustained intrusive cognitions (such as worry and rumination) are the factors behind prolonged physiological activation (i.e stress response) that over time will lead to somatic impairment (e.g Brosschot, Pieper, & Thayer, 2005). From this perspective, anticipation and fear of potentially stressful events that may take place in the future (regardless of whether they actually occur or not) are sufficient sources of stress that contributes to impaired well-being and emotional distress (Brosschot et al., 2005; LaVia et al., 1996). This rationale behind this stress perspective is presented in the theory section. The long-term effects of being a witness to workplace bullying will be the subject of investigation in this thesis through the application of the following hypotheses:

H5: Those participants who reported being a witness to bullying at work both in 2006 and in 2008 (i.e long-term witnesses) will report higher levels of stress, burnout, more state negative affect, and lower psychosomatic health values than the control group and those who reported being witnesses on only one of the administrations.

H6a: The long-term witnesses will report stable mean scores on the various measures from T1 to T2.

H6b: It is expected that those who categorized themselves as non-witnesses in 2006 but who reported witnessing bullying at work in 2008 (new witnesses) will report an increase in their scores on the measures from T1 to T2.

H6c: Those who previously witnessed bullying in 2006 but not in 2008 (previous witnesses) will report a decline in scores on the measures from T1 to T2.

“The Ripple Effect”

Conceptualizing bullying as a social stressor for everyone in the workplace. As previously mentioned, workplace bullying entails a high degree of social stress within a work unit or an organization. As a consequence of a work environment characterized by hostility and fear, the social relations between colleagues within the organization become either altered or strained (Einarsen et al., 2003; Zapf et al., 1996). As previously mentioned, this form of social stressor has been highly associated with physical and psychological symptoms in victims (Agervold & Mikkelsen, 2004; Mikkelsen & Einarsen, 2002a). In general, the psychosomatic reactions of witnesses has received most attention within the research areas of sexual harassment at work (e.g Glomb, Richman, Hulin, Drasgow, Schneider & Fitzgerald,

1997; Miner-Rubino & Cortina, 2004, 2007), occupational ethnic harassment (e.g. Low, Schneider, Radhakrishnan & Rounds, 2007), and in terms of workplace violence and aggression (e.g. Barling, 1996). These investigations have yielded that observers to the mistreatment of others at work are highly affected by these events in terms of reporting elevated stress levels and impaired health than a reference group.

Although bullying primarily affects the exposed victims in terms of impaired self-esteem and health, it is not entirely impossible to imagine that others in the workplace as well might experience the negative impacts of bullying. Victims of workplace bullying is found to often seek the support of their colleagues in order to gain acceptance and justification for their case (Bloch, 2011), which assumingly will make it harder for co-workers to remain completely neutral or emotionally uninvolved. The increased focus on team-work and the post-modern centrality of interdependence among workers and departments in organizations are two additional factors that also may increase the risk of colleagues being involuntarily drawn into the area of conflict and subsequently be affected by it (Zapf et al., 1996; Hoel, Einarsen & Cooper, 2003).

Empirical support for elevated stress levels among observers to bullying at work. It has been suggested that indirect exposure to psychological aggression at work (i.e. bullying), either in terms of directly observing it, or through indirect knowledge of its occurrence, is enough to produce psychological discomfort and stress responses in individuals (Hoel et al., 2004; Miner-Rubino & Cortina, 2004, 2007). This assumption has received a promising ground of empirical evidence and support. Two British surveys revealed that the majority of respondents who had witnessed workplace bullying also reported elevated levels of stress symptoms than a control group (Rayner, 1999, 2000) while similar results were obtained in a Finish investigation (Vartia, 2001). Moreover, the British investigations (Rayner, 1999, 2000) also revealed that only a small proportion of witnesses claimed to be unaffected by the presence of bullying whereas 1/3rd reported a desire to quit their job because of the hostile work atmosphere. Furthermore, the majority of the witnesses in the UNISON survey (Rayner, 2000) said that they felt sorry for the targeted victims. Bullying is also reported to affect employees general motivation at work (Hoel & Cooper, 2000, ref. in Einarsen & Mikkelsen, 2003) while a Danish investigation yielded that the witnesses to bullying reported lower supervisor support and more elevated signs of anxiety than employees not exposed to direct nor indirect manifestations of bullying (Hansen et al., 2006). Research on the topic of sexual harassment at work has revealed that those who observe sexually harassing behaviours

directed towards their female colleagues tend to show lower levels of psychological and physical well-being, higher job burnout, and more thoughts about quitting, than non-observers (Miner-Rubino & Cortina, 2007). As such, it is reasonable to believe that the negative consequences of a work climate characterized by psychological aggression are far-reaching in terms of having aversive effects for all the individuals within the work unit, and not just for the targeted employees.

In light of the above mentioned findings, it seems reasonable to suggest that workplace bullying in its own right should be conceptualized as a social stressor that in turn produces a “Ripple Effect” (Rayner, 2000) by creating a generally stressful environment for both involved and non-involved individuals. Within such a stressful environment, individuals may worry about being the next victim of aggression, which in turn can lead to emotional tension and affective consequences (Miner-Rubino & Cortina, 2004). A consistent finding is that witnesses to workplace bullying tend to report a fear of becoming the perpetrators’ next target (Rayner, 1999; Vartia, 2001). Research has found that there is a widespread belief among employees that bullying is allowed to continue because both the victims and the observers are either too afraid to notify the management, or because they think the perpetrators will get away with it anyhow (Rayner, 2000). In addition, workplace bullying that is met with passivity from supervisors and upper management may lead employees to believe that the organization does not care about the psychosocial work environment nor about the well-being of its’ employed individuals. Such beliefs may in turn foster what Anderson and Pearson (1999) has conceptualized as workplace incivility. Workplace incivility is defined as “(...) workplace behaviour that violates workplace norms for mutual respect, is characteristically rude and discourteous, and displays a lack of regards for others” (Anderson & Pearson, 1999:108). As such, increasing incidents of workplace bullying and negative acts may turn into a negative spiral of disrespectful behaviour and communication amongst the employees, and become the major characteristic of the organizational climate. Employees who think that their organization is unresponsive to uncivil behaviour are found to report declines in their psychological and physical well-being (Miner-Rubina & Cortina, 2007). Vartia (1996) noted that a negative climate at work may increase the likelihood of frequent turnover for non-bullied employees. Furthermore, a hostile workplace climate has been coupled with declining productivity and increased levels of absenteeism (Pearson, Andersson, & Wegner, 2001) which makes a strong case for the argument that organizations and supervisors should take the matter of bullying serious. However, it is important to stress that these previous investigations into the consequences of observing psychological aggression at work have had a tendency to

apply a cross-sectional design, hence reducing the possibility of drawing any conclusions with respect to causality. It is as such essential to emphasize that future research in this area of interest should understand the importance of applying a longitudinal design.

Theoretical Considerations: Why Bullying is Detrimental to the Well-Being of Everyone in the Workplace

Social ostracism: A threat to identity and self-esteem. As mentioned in a previous section, one's occupation is closely related to one's social identity and self-esteem. According to Tajfel and Turner (1979), social identity represents those aspects of people's self-concept that is based upon their social group or category memberships. In so far as one of the central elements of workplace bullying involves the social rejection of the victim, conceptualized through the term of social ostracism (Williams & Zadro, 2003), bullying poses a threat to group membership and as such a risk to maintaining a favourable self-image. According to social pain theory (McDonald & Leary, 2005), being subjected to social ostracism from a self-related and socially important group is both mentally and physically painful because the emotional reaction is partly mediated by the same physiological system that is involved in physical pain. The concept of social pain is derived from Herman and Panksepp (1978) who argued that various cognitive-emotional constructs such as social attachment and separation distress are regulated by the same primitive brain circuits and neurotransmitters as physical pain. Social pain refers to the broad range of aversive emotional responses that are elicited when individuals perceive that they are being devaluated by or excluded from their desired groups (McDonald & Leary, 2005). In essence, social ostracism is often associated with a "social death" (Williams & Zadro, 2003) which indirectly indicates that an individual is no longer a member of the in-group (Tajfel & Turner, 1979). In light of these theories, it seems reasonable to argue that the threat of social exclusion from the work group is a burden that affects everyone within a work unit characterized by hostile interaction, and not just the direct victims of bullying.

Bullying as a threat to social affiliation and the need to belong. According to Williams and Zadro (2003), the experience of social ostracism in the workplace constitutes a threat to four of the fundamental social motivations of individuals in terms of belonging, control, meaningful existence, and self-esteem. In accordance with the belongingness hypothesis (Baumeister & Leary, 1995), people have an inherent and fundamental need to belong in terms of forming and maintaining strong, enduring and stable interpersonal relationships. A

central aspect of the hypothesis is that the experience of forming social bonds and being a member of a social group will be closely associated with feelings of pleasure and positive affect, while being deprived of such relationships will lead to affective distress (i.e. psychological stress and negative affect). The presence of bullying at work has been found to de-stabilize and alter the social interaction in the workplace (Einarsen et al., 2003) and is as such a threat to the maintenance of strong and stable relationships amongst the employees. Moreover, bullying poses a challenge to the established social hierarchy in terms of de-stabilizing the employees' standings and social space in the social structure (Clark, 1990). From this perspective, being subjected to bullying is equivalent to a decrease in social space within the workplace.

There might as well be a possibility that the observers of bullying are afraid of losing their own social standing within the work unit, and might as such remain seemingly "ignorant" of the bullying behaviour in the hope of avoiding the wrath of the perpetrators. As previously mentioned, research has yielded that witnesses who publicly sympathize with and intervene on behalf of the targets are themselves at risk of being victimized and socially excluded (Bjorkelo et al., 2010). Insofar as the witnesses' social existence is at stake if they are perceived to support the victim, and in light of the findings that co-workers often report a fear of being the next target (e.g. Rayner, 1999) it seems reasonable to argue that the witnesses sense of belongingness is at stake regardless of whether they choose to remain silent or speak up against bullying.

The belongingness hypothesis suggests that being socially deprived of affiliation and group membership will be closely related to maladjustment, stress reactions, psychological pathology, and negative health outcomes (Baumeister & Leary, 1995). This claim has received support from the empirical finding that not only chronic deprivation and the absence of social bonds, but even the potential threat of losing close and important relationships, is highly associated with negative affect, social anxiety, and depression (Leary, 1990). In fact, the mere act of imagining social rejection and exclusion is in itself found to be sufficient in order to evoke physiological arousal (Craighead, Kimball, & Rehak, 1979). Being in a state of constant fear and worry of victimization may not only threaten the witnesses inherent need to belong, but may also be accompanied with feelings of losing control over one's own environment and the interpersonal interaction (Williams & Zadro, 2003). A lack of control is furthermore closely associated with deprivation of another basic social need; the need for a safe and secure workplace (Barling, 1996).

Moreover, being in a state of constant worry and alert constitutes in its own right a chronic stressor (Brosschot et al., 2005). Repeated exposure to stressors over time is assumed to be a key factor that affects the development of stress and pathogenic health symptoms (Lazarus & Folkman, 1984; McEwen, 1998; Ursin & Eriksen, 2004), a notion that will be further elaborated in the next section.

The Relationship between Witnessing Bullying, Stress, and Health

The link between psychological stress, health, and well-being has received a great deal of empirical support. A well established notion is that psychological stress acts as a co-determinant of somatic disease through the gateway of the endocrine system (e.g Kiecolt-Glaser et al., 2002). The literature on the victims of workplace bullying has thoroughly established that being exposed to this form of psychological aggression at work constitutes a serious stressor that in turn poses a severe threat to the well-being and health of these individuals (e.g Agervold & Mikkelsen, 2004). Previous results have noted that also the targets' co-workers tend to report elevated levels of stress (e.g Rayner, 1999, 2000), but these investigations have been of a cross-sectional character. As mentioned in previous sections, both a theoretical framework concerning the stress-health relation that focuses on the role of prolonged physiological activation due to lingering and intrusive cognitions, and a stress perspective which aligns subjective stress with aversive emotional reactions and reduced well-being, will be applied in order to explain how the presence of bullying in an organization may directly or indirectly affect the witnesses in the workplace. The prolonged physiological activation perspective will in particular be applied with respect to the potential long-term effects of witnesses who have observed bullying over an extended period of time.

The mediating role of prolonged physiological activation. In general, much research covering the stress-health relationship has been grounded within a reactivity-based theoretical framework. From the perspective of a reactivity paradigm, frequent and intense stressful events give rise to increased physiological responses that in turn pose a risk to individual health (e.g Linden, Earle, Gerin, & Christenfeld, 1997). However, from another stress perspective, acute stress responses and brief emotional stressors are not in their own right perceived to constitute a serious threat to individual health unless the situation is of a severely traumatic or extreme nature (Kiecolt-Glaser et al., 2002). According to the cognitive activation theory of stress (CATS; Ursin & Eriksen, 2004), a stress response is initially triggered when individuals experience a discrepancy between their actual and desired state in

which a general alarm in the individual's homeostatic system is elicited, producing elevated levels of neurophysiological activation, brain arousal, and wakefulness. This non-specific and general reaction to a stressor is considered a normal activation response. Moreover, it is perceived to constitute a necessary and adaptive warning mechanism by preparing the organism to mobilize the necessary physiological and psychological resources in order to face challenges and potential dangers. The theory further postulates that the experience of elevated levels of stress is not the factor that poses a severe threat to individuals' health. It is only when the initial stress responses are sustained over an extended period of time that a state of "allostatic load" (McEwen, 1998) in the neurophysiological system may come to engage pathological processes that further endanger individuals' health and well-being. Hence, it is the accumulated stress-induced physiological arousal over time (i.e prolonged activation) that should be regarded as the primary source of the bodily wear and tear that ultimately leads to pathogenic disease (Ursin & Eriksen, 2004; Brosschot et al., 2005). In essence, the issue of importance from this point of view is not what happens during the stressful event, but how the total and accumulated stress load may finally take its toll on the individual organism.

The role of prolonged stressful cognitions. It might not so much be the mere act of witnessing bullying behaviour that evokes a severe stress response in the witnesses, but the reality of working in a climate affected by poor social interpersonal communication and unpredictable hostile interaction that may constitute the real chronic stressor. Moreover, a work environment characterized by mistrust and a lack of dignity and mutual respect (i.e workplace incivility) will to a large degree give rise to negative thoughts and rumination among the employees. As suggested by Brosschot and colleagues (2005), the mere act of thinking about stressful events, both before and after their occurrence, is the mechanism that mediates between the stress response and the prolonged physiological activation. From this perspective, perseverative cognitions, as embodied by the mental states of worry, rumination, and anticipatory stress, represent the psychological gateway through which the experience of stress has an impact on the physiological system. Perseverative cognitions are defined as "the repeated or chronic activation of the cognitive representations of stress-related content" (Brosschot et al., 2005:1045). This idea is based upon research which has yielded that prolonged rumination in the wake of a stressful event is associated with maladaptive psychological processing and responses (Baum, Cohen, & Hall, 1993), and that the presence of intrusive thoughts tends to sustain the increased levels of emotional distress and as such prolong the aversive immunological alterations (LaVia et al., 1996). In particular, chronic

stressors that are experienced as either uncontrollable or unpredictable have been highly associated with prolonged secretion and elevated levels of stress hormones such as catecholamines and cortisol (Baum et al., 1993). An organizational climate that is characterized by negative interpersonal behaviour (i.e bullying) reflects to a great extent an uncontrollable and unpredictable work environment in which none of the employees are guaranteed to stay clear of negative behaviours.

The perseverative cognitions hypothesis (Brosschot et al., 2005) is furthermore based on the assumption that a large part of people's everyday stress experiences (i.e daily hassles) consist of rumination, fear, and worry about events that might occur in the future. Hence, the presence of anticipatory stress concerning future potential events, irrespective of whether they actually will occur or not, can elicit neuroendocrine responses as if the events were in fact real and occurring (Brosschot, Verkuil, & Thayer, 2010). In so far as research has indicated that witnesses tend to report a fear of being the next target of bullying, this fear may become manifested through the cognitive state of continuous worry which in turn, according to the hypothesis, is responsible for prolonging the elevated levels of neuroendocrine activity (i.e stress response).

Empirical support for the perseverative cognition hypothesis. Although the perseverative cognition hypothesis (Brosschot et al., 2005) is in its infancy in terms of empirical testing, it has none the less received a promising body of empirical support. Several investigations have revealed that being in a state of constant worry constitutes a great threat to health in terms of increased endocrinological, cardiovascular, and immunological activity (Brosschot, Gerin, & Thayer, 2006; Pieper & Brosschot, 2005). Moreover, worrying that concerns episodes at work is found to be particularly associated with increased heart rate and an elevated risk of developing cardiovascular disease, even when negative health behaviours, personality traits, and factors of job strain are accounted for in the analysis (Pieper, Brosschot, van der Leeden, & Thayer, 2007). In addition, it has been found that worries concerning potentially aversive events taking place in the future are particularly associated with physiological effects such as increased autonomic activity (Pieper et al., 2007). In light of this body of research, it seems reasonable to assume that individuals working in an environment that is characterized by bullying and negative interpersonal interaction will experience elevated stress levels which, if sustained, will lead to reduced well-being and impaired health.

Stress is accompanied with negative affective states. Although the previous section highly emphasized the impact of perseverative cognitions on stress responses and psychosomatic health impairments, stress should also be understood through the lenses of an affective perspective. In so far as stress and burnout is often accompanied with aversive emotional states and psychological exhaustion (e.g. Schaufeli, 2003; Spielberger et al., 2003), it seems necessary to include the factors of negative mood and affect in the analysis. Stressful events have been coupled with increased levels of self-reported state anxiety (Watson & Clark, 1984), and a high degree of negative affect has been associated with poor mental health and reduced well-being (Beiser, 1974). Moreover, negative affect has been found to correlate with self-reported stress in terms of daily hassles (Kanner, Coyne, Schaefer, & Lazarus, 1981), while negative moods and emotions have been found to correlate with health problems and psychosomatic complaints (Watson & Pennebaker, 1989).

According to Watson and Clark (1984), subjective emotional experiences and affective states are best depicted by the two mood dimensions of positive and negative affect. These two mood states are commonly assessed through the positive and negative affect schedule (PANAS; Watson, Clark, & Tellegen, 1988), which is a scale that has been found to provide both a reliable and independent measure of the two affective factors (Watson et al., 1988). In short, positive affect (PA) “reflects the extent to which a person feels enthusiastic, active, and alert”(Watson et al., 1988:1063), whereas negative affect (NA) is conceptualized as a mood dimension that reflects a high degree of subjective distress and the extent to which a person feels upset or unpleasantly aroused (Clark & Watson, 1988). A high PA indicates being in a state of pleasurable engagement and high energy, while a low PA reflects states associated with fatigue (i.e. drowsy, lethargic) (Clark & Watson, 1988; Watson et al., 1988). A high NA, on the other hand, involves the experience of several aversive mood states such as guilt, fear, anger, tension, worry, and nervousness, whereas a low NA reflects a state of serenity and calmness (Watson et al., 1988). It is the NA scale of the PANAS that is of interest to this present study. In accordance with the above-mentioned findings relating stress with negative affect, it seems reasonable to assume that a high degree of self-reported stress amongst the witnesses to bullying will be accompanied with increased levels of negative affect.

Up to this point, the thesis has attempted to provide a comprehensive theoretical framework which addresses the factors at play that can affect those individuals who are not the direct targets of acts of psychological aggression and bullying at work. The next section is devoted to the methodical approach in this study-

METHOD

The Present Study

As previously stated, this master thesis is based on the data material originating from the Danish research project *The Workplace Investigation 2006/2008* and is part of the larger project labelled "*Bullying and Harassment at work: Prevalence, Risk factors, Consequences, Prevention, and Rehabilitation 2006-2009*". This national research project was developed in order to generate a broader knowledge about the causal antecedents to bullying and harassment at work and to highlight which consequences such behaviours entail. The workplace investigation is financially supported by Arbejds miljø forsknings fonden and has received ethical approval by the Danish Videnskabetisk Komite and Datatilsynet.

As previously mentioned, one of the aims of this thesis was to investigate the extent to which witnesses to workplace bullying experience elevated levels of stress, somatic and cognitive stress symptoms, and negative affect and whether they report lower health conditions and more burnout than a control group by applying a cross-sectional approach. Furthermore, due to the prospective design of the workplace investigation, the potential long-term effects of witnessing bullying at work could be substantially investigated through a longitudinal approach to the data material.

Procedure and Materials

The recruitment of participants to "*The Workplace Investigation 2006/2008*" was accomplished by publishing open invitations over the internet and mainly through posting the invitations on the web sites of relevant occupational organizations and labour unions. Sixty different organizations comprising 22 private enterprises and 38 public organizations with a total of 7358 employees volunteered to partake in the investigation. The participants were recruited from the sectors of health, industry, transportation, education, finance, business, hotel, and public administration.

The workplace investigation entailed the administration of a comprehensive self-report questionnaire: "Spørgeskema: Projekt samarbejde og arbejdsklima – forebyggelse af mobning på arbejdspladsen. En undersøgelse af psykisk arbejdsmiljø, helbred, og trivsel 2006/2008" (see appendix 1) on two occasions, a baseline in 2006 (T1) and a follow-up in 2008 (T2). The questionnaire was designed to measure various aspects of the psychological work environment in order to highlight the potential risk factors that may contribute to the development of bullying and negative behaviours at work. The questionnaire is divided into

12 sections which in turn are made up of a variety of scales that measure factors such as demands, influence, meaning, involvement, role conflict, social support, quality of leadership, psychological and somatic health and disease, level of conflict, and various negative behaviours related to bullying, harassment, and discrimination at work. The scales and items applied in the questionnaire are based on validated, reliable, and internationally recognized tests and methods (e.g Kristensen, Hannerz, Hogh, & Borg, 2005; Pejtersen, Kristensen, Borg, & Bjorner, 2010).

Participants

The overall response rate to the questionnaire administered in 2006 turned out to be 45.5 % (n = 3.354) of the original sample (n = 7.358) consisting of 67% females (n = 2.255) and 33% males (n = 1.099) from which 63% were public employees (n = 2.126) and 37% represented employees in the private sector (n = 1.228). The age of the participants ranged between 15 and 73 ($M = 46$, $SD = 10$), but the mean age differed among men ($M = 46$, $SD = 10.5$) and women ($M = 44$, $SD = 10$).

The response rate on the questionnaire administered in 2008 was, as expected, significantly lower, comprising only 30.5% (N = 2.248) of the original total sample (n= 7.358), where 69% were females (n = 1.556) and 31% were males (n = 692), and in which 66% represented the public (n = 1.489) and 34% represented the private sphere (n = 759). The mean age and the age range among the participants were found to be equivalent to the 2006 sample ($M = 46$, $SD = 10$). Among those who responded to the questionnaire in 2006, only 49 % (n = 1.664) also responded to the follow-up questionnaire in 2008.

Measures

Categorizing participants into witness and reference group. In line with the research population of interest in this thesis, the natural starting point was to uncover how many of the participants who classified themselves as witnesses to bullying. Under one of the main sections of the questionnaire which was dedicated to the subject of bullying, participants were first presented with the following definition of bullying: “Mobning finder sted, når en eller flere personer gentagne gange over en længere periode, bliver udsat for ubehagelige eller negative handlinger eller adfærd på sit arbejde, som det er svært at forsvare sig imod.”

The participants were then presented with three questions concerning bullying at work that originate from the Bergen Bullying Inventory/ The Negative Acts Questionnaire (NAQ; Einarsen et al, 1994). The first question rated the extent to which the participants had been

exposed to bullying through the question: “Have you been a target of bullying at work within the past 6 months?” The second question concerned the degree to which the participants had witnessed bullying: “Have you within the past 6 months witnessed another person being the target of bullying at work?”, whereas the third question measured the extent to which the participants themselves had engaged in bullying behaviour: “Have you within the past 6 months bullied someone else or participated in the bullying of others at work?”

The response categories consisted of a five-point scale where 1 = *never*, 2 = *sometimes*, 3 = *monthly*, 4 = *weekly*, and 5 = *daily*. The witness group was determined to comprised those participants who reported being a witness of bullying at least *sometimes* (af og til), and whom responded *never* (= 1) to being the target of bullying and *never* (=1) to have bullied someone else. The control group was determined to include those participants who reported to *never* have bullied, *never* been bullied, and *never* having witnessed bullying at work with respect to the three questions regarding bullying at work.

In order to explore the potential long-term effects of witnessing bullying of work, the sample would be further divided into the four categories of 1) long-term witnesses, 2) previous witnesses, 3) new witnesses, and 4) control group (i.e never witnessed bullying neither at T1 nor at T2).

Self-report measurement of general health. The participants’ self estimate of their general health condition was assessed through the use of one item originating from the Danish SF-36 Health Survey (Bjorner, Thunedborg, Kristensen, Modvig & Bech, 1998). In so far as participants have been found to favour real questions over items formulated as statements (Kristensen et al., 2005), the general health measure was represented by the following question: “In general, would you say your health is excellent, very good, good, fair, or poor?” in which the five response categories ranged from 1 = *excellent* to 5 = *poor*. This item has been successfully applied in numerous other questionnaires and has been shown to represent a good predictor variable in terms of a variety of health outcomes (Idler & Benyamini, 1997).

In order to uncover the more detailed spectra of possible psychosomatic health consequences of witnesses, the participants were presented with 15 questions regarding how often they experienced various aspects of stress and burnout, and how often they had experienced different somatic and cognitive stress symptoms during the past four weeks. The response categories ranged from 1 = *all the time* to 5 = *not at all*. According to Pejtersen et al.

(2010), a scale length of 3 or 4 items constitutes the most reasonable trade-off between response burden and measure precision in a comprehensive questionnaire.

Self-report measurements of somatic and cognitive stress symptoms. The somatic stress symptoms were assessed through 4 questions concerning abdominal pain, head ache, muscle tension, and palpitation ($\alpha = .69$ in 2006 and $\alpha = .66$ in 2008). Cognitive stress symptoms were estimated through 3 questions regarding difficulties and impairments in terms of memory, thinking clearly, and making decisions ($\alpha = .80$ in 2006 and $\alpha = .81$ in 2008). The scales applied to the assessment of somatic and cognitive stress symptoms originate from the Stress Profile developed by Setterlind (Setterlind & Larsson, 1995). Here, stress symptoms are conceptualized as being synonymous with distress and refer to the physiological and psychological responses to stressors (Setterlind & Larsson, 1995). These scales have previously been found to yield satisfactory reliability coefficients by obtaining Cronbach's Alphas of .73 and .87 respectively (Albertsen, Nielsen & Borg, 2001).

Self-report measurements of general stress. The participants degree of general stress was assessed by 4 items involving the degree of irritability, tension, the inability to relax, and perceived stress ($\alpha = .85$ in 2006 and $\alpha = .83$ in 2008). The scale of stress is based on Warr's (1990) circle model for psychological states. According to this model, stress is conceptualized as "(...) an individual state characterized by a combination of high arousal and displeasure", and has previously been found to yield good reliability ($\alpha = .81$) (Pejtersen et al., 2010:15).

Self-report measurements of burnout. The witnesses degree of "Burnout" was estimated through the application of 4 questions concerning the extent of physical and emotional exhaustion, and the frequency of feeling tired and worn out ($\alpha = .88$ in 2006 and 2008). The items of the scale for the assessment of burnout originate from the dimension of *personal burnout* of the Copenhagen Burnout Inventory (CBI; Kristensen, Borritz, Villadsen, & Christensen, 2005). Personal burnout is here defined as "(...) the degree of physical and psychological fatigue and exhaustion experienced by the person" (Kristensen et al., 2005:197) and has previously displayed satisfying reliability ($\alpha = .83$) (Pejtersen et al., 2010).

Self-report measurements of negative affect. In order to measure the witnesses' degree of state negative affect, the Negative Affect (NA) scale from the PANAS, an 11 item scale which was originally developed by Watson et al., (1988), was applied alongside two

additional items that was added to the scale by the developers of the workplace investigation questionnaire (NFA). According to Watson et al. (1988), when the NA scale applies a short-term time frame (e.g daily, past few weeks), as is the case in this study, the scale is sensitive to fluctuations in mood and emotional states, whereas when the scale is applying a long-term time frame (e.g past year or general), it captures the more stable personality dimension of negative affectivity.

The subjects were asked to rate on a 5-point scale the extent to which they had experienced each of the 13 emotional mood states during the past 4 weeks ranging from 1 = *not at all*, to 5 = *very much*.. The 11 items originating from the NA scale represented the following terms: jittery, scared, afraid, alert, upset, irritable, guilty, hostile, distressed, ashamed, nervous, while the 2 added items represented the terms: angry and humiliated. The 13 item NA scale in this present study obtained a Cronbach's alpha of .89 both in 2006 and 2008, which is consistent with previous findings yielding internal consistency alpha's ranging from .79 (Mikkelsen & Einarsen, 2002a) to .92 (Watson et al., 1988).

Scoring of the scales. The scales that measure somatic and cognitive stress symptoms, stress, burnout, negative affect, and the one item measure of general health are scored from 0 to 100 points. The total score on a scale for a respondent represents the average of the scores on the individual items. High scores indicate high values on the respective dimensions. Thus, a high score on the stress, negative affect, and symptom variables means a high stress level and high degrees of symptoms and negative affect, while a low score on the same variables indicates low levels of stress and symptoms, and low levels of negative affect. In the case of self-reported general health, high levels indicate an overall feeling of being healthy while low scores on this dimension indicate poor health.

Statistics

All statistical analyses were conducted by the use of the statistical software program SPSS Statistics version 17.0. (2008). Pearson's product-moment correlations were computed in order to test the associations among the exposure to indirect bullying variable (i.e the witness question) and the different outcome variables. In order to test whether the self-reported witnesses in 2006 and 2008 would differ from their respective control groups in 2006 and 2008 in terms of their values on the various measures, an independent sample t-test was performed.

A one-way analysis of variance (ANOVA) was conducted in order to test the differences in values among the four re-categorized groups on the respective measures in 2008. A post-hoc Bonferroni test was performed to enable a more thorough analysis of the compared values between the four groups on the various measures. The Bonferroni post-hoc test was chosen because this is the recommended method when there are unequal numbers of cases in each group (Pedhazur & Schmelkin, 1991). For measures that were not found to meet the assumption of homogeneity of variances, the Games-Howell post-hoc test was employed.

Finally, a paired-sample t-test was applied in order to investigate the extent to which the within-group values would change from the baseline administration (T1) to the follow-up administration (T2). This thesis used an alpha level of .05 for all statistical tests.

RESULTS

Descriptive Statistics

Prevalence of witnesses to bullying at work. Of the respondents in 2006 ($n = 3.354$), a number of 874 participants (26%) reported to have witnessed bullying at work within the past six months whereas 443 (19%) of the respondents in 2008 ($n = 2.248$) reported being witnesses to bullying. Among the 874 self-reported witnesses in 2006, 11.7% ($n = 103$) reported to observe bullying on a daily or weekly basis, whereas the majority of the witnesses, 88.3% ($n = 771$) reported having witnessed bullying at work on a monthly or a now and then basis. In accordance with the strict criteria set for the classification of the witness group, a total of 520 (59.5%) participants of the original 874 witness sample in 2006 qualified as “witnesses only”, whereas 260 (58.6%) of the original 443 witnesses in 2008 were now classified as “witnesses only”. Both the witness samples were overrepresented by female participants (68% at T1 and 67% at T2) in which only 32% (T1) and 33% (T2) of the witness groups were represented by men. The mean age and the age range of the “witnesses only” groups was found to be equivalent to the age range and the mean age of the total sample in 2006 and 2008 ($M = 46$, $SD = 10$). Of the respondents in 2006 ($N = 3.354$) a total of 2336 (69.6%) participants comprised the control group, while a total of 1662 (73.9%) of the participants in 2008 ($N = 2.248$) were classified as the control group at T2.

Intercorrelations Among Measures

Pearson’s product-moment correlations between the measures in this present study are presented in table 1.

Table 1

Intercorrelations among the measures in 2006 and 2008 of the total sample

	1	2	3	4	5	6	7
1. Witness to bullying Scale	1	-.091**	.136**	.125**	.152**	.143**	.201**
2. General Health	.117**	1	-.455**	-.353**	-.404**	-.450**	-.461**
3. Somatic Stress Symptoms	.178**	-.419**	1	.552**	.697**	.676**	.509**
4. Cognitive Stress Symptoms	.158**	-.331**	.564**	1	.648**	.611**	.565**
5. Stress	.203**	-.362**	.688**	.675**	1	.787**	.622**
6. Burnout	.193**	-.402**	.659**	.639**	.784**	1	.592**
7. Negative Affect	-.195**	-.420**	.492**	.588**	.622**	.601**	1

Note. Witness to Bullying Scale = “Have you witnessed another person at work being the target of bullying in the last six months?; Correlations below the diagonal represent the intercorrelations in 2006, while the intercorrelations in 2008 is represented above the diagonal, ** $p < .01$

As the table reveals, all the measures was found to correlate with each other. The scale that measured the prevalence of witnessing bullying at work (WTB) was significantly correlated with all the stress and health variables and the negative affect scale.

Testing the Difference between the Witness and Control Groups

One of the primary aims of this thesis was to determine whether the mean scores on the different stress, health, and negative affect scales would differ between those who reported being a witness in 2006 (N = 520) and their respective control group (N = 2336), and between the witnesses in 2008 (N = 260) and their respective control group in 2008 (N = 1662). Descriptive statistics of the mean scores and standard deviations for the various groups is presented in table 2.

Table 2

Mean scores and standard deviations of the witness group in 2006 and 2008 and their respective control groups in 2006 and 2008 on the different health scales and the NA scale

	<u>Witnesses 06 (N= 520)</u>		<u>Control 06 (N= 2336)</u>		<u>Witnesses 08 (N= 260)</u>		<u>Control 08 (N = 1662)</u>	
	M	(SD)	M	(SD)	M	(SD)	M	(SD)
Somatic stress symptoms	22.21	(17.26)	18.57	(15.58)	21.89	(17.04)	17.90	(14.81)
Cognitive stress symptoms	21.94	(16.90)	18.09	(15.98)	16.50	(11.45)	14.36	(13.02)
Stress	33.23	(20.21)	27.62	(18.59)	30.89	(19.10)	24.83	(17.93)
Burnout	37.95	(21.99)	32.21	(20.13)	35.83	(21.23)	30.06	(19.77)
General health	62.16	(22.95)	66.72	(21.38)	62.89	(23.15)	66.17	(21.23)
Negative Affect	30.47	(13.17)	27.15	(11.27)	29.80	(13.00)	25.93	(11.23)

Note. Higher mean scores indicate higher levels of somatic and cognitive stress symptoms, stress, burnout, and Negative Affect, whereas a higher score on the general health measure indicates better self-rated health.

The table reveals that the witnesses in 2006 and the witnesses in 2008 in general reported higher scores and greater score variability (standard deviations) on all the stress, burnout, negative affect, and stress symptom measures than their respective control groups, while reporting lower mean scores on the general health measure than their respective control groups. In order to determine whether these differences in mean scores between the witness and control groups were significant, an independent sample t-test was conducted. The result of the independent sample t-test is presented in table 3.

Table 3

Results from the independent t-test on the mean scores of all the measures of the witness group 2006 versus the control group in 2006, and of the witness group 2008 and the control group in 2008

	2006			2008		
	t	df	Sig. (2 tailed)	t	Df	Sig. (2 tailed)
Somatic Stress Symptoms	4.407	709.8	.000*	3.549	320.8	.000*
Cognitive Stress Symptoms	4.890	2828a	.000*	2.492	1899a	.013*
Stress	5.761	716.1	.000*	4.998	1899a	.000*
Burnout	5.416	710.4	.000*	4.099	330.8	.000*
General Health	-4.321	2841	.000*	-2.282	1896	.023*
Negative Affect	5.833	2802	.000*	5.009	1891	.000*

Note. a = Levene's test for equality of variances not significant; * p < .05 level

The test revealed that there was a significant difference in terms of mean scores between the witnesses in 2006 and the control group in 2006 and between the witnesses in 2008 and the control group in 2008 on all the respective measures. The results were as such in line with the four hypotheses stating that witnesses to workplace bullying will report higher scores on the somatic and cognitive stress symptoms scale and the stress, burnout, and NA scales, and lower scores on the general health measure than their respective control groups.

Testing the Long-Term Effects of Witnessing Bullying at Work

Categorizing the sample into four groups. As a pre-requisite for testing the long term effects of being a witness to workplace bullying, the witness groups and control groups from 2006 and 2008, were further divided into 4 categories. The categories resulting from this division are displayed below:

Group 1 = Witnesses at T1 and at T2: *Long-term witnesses* (n = 59)

Group 2 = Witnesses at T1 but no longer witness at T2: *Previous witnesses* (n = 145)

Group 3 = Not witnesses at T1 but witnesses at T2: *New witnesses* (n = 105)

Group 4 = Not witness neither at T1 nor at T2: *Control group* (n = 959)

As a result of the re-categorization of the witness and control groups in 2006 and 2008, only 11% (n = 59) of the witness sample reported to have witnessed bullying on both administrations of the questionnaire, whereas 28 % (n = 145) of those who reported having

witnessed bullying at work at T1 no longer reported being a witness at T2. The re-categorization further revealed that 20% (n = 105) of the participants who were previously unfamiliar with bullying at work at T1 reported having witnessed bullying at T2, whereas a total of 41% (n = 959) participants had neither witnessed bullying at T1, nor at T2. There are as such three different witness groups, the long-term, short-term, and previous witnesses, and one control group.

One-way Anova test of the between-group values. A One-way Anova was performed in order to see whether there were any differences between the four groups in terms of their values on the respective measures in 2008. The test revealed that there was a statistically significant difference between the four groups in terms of Somatic Stress symptoms; $F(3, 1246) = 3.207, p = .022, \eta^2 = .007$, Cognitive Stress Symptoms; $F(3, 1245) = 2.698, p = .045, \eta^2 = .006$, Stress; $F(3, 1245) = 9.381, p < .001, \eta^2 = .022$ Burnout; $F(3, 1245) = 6.848, p < .001, \eta^2 = .016$, and negative affect; $F(3, 1242) = 7.970, p < .001, \eta^2 = .018$, while no statistically significant difference between the four groups on the General Health measure was found; $F(3, 1245) = .866, p = .458$. The results thus indicates that there is a significant difference among the four groups on the stress, burnout, stress symptoms, and negative affect measures, whereas they show that the groups do not differ in terms of their values on the general health measure. (For a total review of the ANOVA results, see appendix #.) The Levene's test of homogeneity of variances was conducted in order to check the assumption that the variances of the four groups were equal (i.e not significantly different). This assumption was met in terms of Stress; $F(3, 1245) = 1.949, p = .120$, Burnout; $F(3, 1245) = 1.845, p = .137$, and Cognitive Stress Symptoms; $F(3, 1245) = 1.303, p = .272$, but was violated (i.e significant) in terms of Somatic Stress Symptoms; $F(3, 1246) = 4.803, p = .002$, and Negative Affect; $F(3, 1242) = 7.965, p < .001$. Since the assumption of homogeneity of variance was not met for the Cognitive Stress Symptoms and the Negative Affect measures, the Welch robust test for equality of means was conducted. As a result of this test the adjusted F ratio was found to be significant for both the Cognitive stress symptoms measure ($p = .023$) and the Negative affect measure ($p = .001$), yielding support to the assumption that at least one of the groups was significantly different from the others.

Post-Hoc tests. The Bonferroni post-hoc test disclosed that the previously observed significance between the four groups on the Somatic and Cognitive stress symptoms measure was found to no longer fulfill the level of significance set at .05. The post-hoc test revealed,

however, that there were still significant differences between some of the groups on the Stress, Burnout, and NA variables.

In terms of the Stress measure, Group 1 ($M = 31.4$, 95% CI [26.2, 36.6]) differed significantly from the control group ($M = 22.9$, CI [21.8, 24]), $p = .002$, but in contrast to the expectations, Group 1 was not found to significantly differ from Group 3, the new witnesses ($M = 30.24$, CI [26.4, 34]), $p > .05$, or Group 2, the previous witnesses ($M = 25.7$, CI [22.9, 28.6]), $p > .05$. Moreover, the new witnesses representing Group 3 was also found to significantly differ from the control group, $p < .001$, but not from the previous witness group, $p > .05$. The previous witness group did not differ from the control group, $p > .05$.

On the Burnout scale, Group 1 ($M = 35.6$, CI [29.8, 41.4]) differed significantly from the control group ($M = 28.3$, CI [27, 29.5]), $p = .036$. In contrast to the expectations though, Group 1 was not found to differ from Group 3, the new witnesses ($M = 35.6$, CI [31.6, 39.6]), $p > .05$, or Group 2, the previous witnesses ($M = 31.3$, CI [28.1, 34.5]), $p > .05$. Group 3, the new witnesses, was found to significantly differ from the control group, $p = .002$, but did not differ from Group 2, the previous witnesses, $p > .05$. Group 2, the previous witnesses was not found to differ from the control group, $p > .05$.

Since the assumption of homogeneity of variances underlying the ANOVA test was not met in terms of the Negative affect measure, the Games-Howell post-hoc test was applied. Surprisingly, the test revealed that Group 1 ($M = 29.5$, CI [25.8, 33.3]) did not significantly differ from the control group ($M = 25.2$, CI [24.5, 25.9]), $p > .05$ on this NA measure. Moreover, Group 1 did neither differ from Group 3, the new witnesses ($M = 30$, CI [27.3, 32.8]), $p > .05$, nor Group 2, the previous witnesses ($M = 26.2$, CI [24.3, 28]), $p > .05$. However, with respect to negative affect, Group 3 was found to significantly differ from the control group, $p = .004$, but was not found to differ from Group 2, $p < .05$. No statistically significant difference was observed between Group 2 and the control group on this measure, $p > .05$.

In sum, the results revealed that the long-term witnesses did differ from the control group on the stress and burnout measures, but did not differ in terms of state negative affect. Moreover, the long-term witnesses did not differ from the previous and the new witnesses on the stress, burnout, and negative affect measures at T2. As such, the post-hoc test yielded little support to the second assumption of the fifth hypothesis stating that long-term witnesses will be more affected than the new and previous witnesses, although the first assumption that the long-term witnesses would differ from the control group was partially met.

Testing Within-Group Values from T1 to T2

The paired-samples t-test of within-group values. A paired-sample t-test was performed in order to investigate whether the values on the various measures of the three different witness groups would differ from T1 to T2 (hypothesis 6). With respect to the general health measure, none of the groups were found to report significantly different scores from the base-line to the follow-up administration, $p > .05$.

In line with the first expectation of the sixth hypothesis (H6a), the test revealed that the long-term witnesses (Group 1) did not differ in terms of their stress level from T1 to T2, $t(57) = 1.879$, $df = 56$, $p = .065 > .05$, 2 tailed, nor in terms of their somatic stress symptoms, $t(57) = 1.308$, $df = 56$, $p = .196$, the degree of burnout, $t(57) = 1.310$, $df = 56$, $p = .196$, or with respect to state negative affect, $t(57) = .118$, $df = 56$, $p = .906$. However, this group reported an unexpected significant decline with regards to their values on the cognitive stress symptoms measure from 2006 ($M = 22.07$, $SD = 16.6$) to 2008 ($M = 17.3$, $SD = 11.1$), $t(57) = 2.324$, $df = 56$, $p = .024$.

In contrast to the second expectation of the sixth hypothesis (H6b), the new witnesses (Group 3) did not report a significant increase in their Stress levels from T1 to T2, $t(104) = 1.256$, $df = 103$, $p = .212$, and neither in terms of increased levels of Somatic Stress Symptoms, $t(104) = -.430$, $df = 103$, $p = .668$, Burnout, $t(104) = .627$, $df = 103$, $p = .532$, and Negative Affect, $t(104) = -.351$, $df = 101$, $p = .727$, a finding which thus contradicted this second part of the sixth hypothesis. Another surprise was the discovery that this witness group actually reported a significant decline rather than the expected increase in terms of their levels of Cognitive Stress Symptoms from 2006 ($M = 21.9$, $SD = 16.9$) to 2008 ($M = 16$, $SD = 10.5$), $t(104) = 4.168$, $df = 103$, $p < .001$.

In line with the third expectation of the sixth hypothesis (H6c), Group 2, the previous witnesses, showed a significant decline in their Stress levels from 2006 ($M = 29.9$, $SD = 18.9$) to 2008 ($M = 25.7$, $SD = 17.3$), $t(143) = 2.521$, $df = 142$, $p = .013$, and an equivalent decline in terms of the reported levels of Somatic Stress Symptoms from T1 ($M = 19.5$, $SD = 15.9$) to T2 ($M = 17.2$, $SD = 12.4$), $t(143) = 2.393$, $df = 142$, $p = .018$, and Cognitive Stress Symptoms from T1 ($M = 20.8$, $SD = 16.6$) to T2 ($M = 14.9$, $SD = 11.8$), $t(143) = 4.606$, $df = 142$, $p < .001$. The same declining patterns were found in terms of Burnout from the 2006 administration ($M = 35.7$, $SD = 21.8$) to the 2008 follow-up administration ($M = 31.3$, $SD = 19.1$), $t(143) = 2.384$, $df = 142$, $p = .018$, and with respect to the measure of Negative Affect for this group from T1 ($M = 29.8$, $SD = 13.5$) to T2 ($M = 26.1$, $SD = 11.1$), $t(143) = 3.287$, df

= 142, $p = .001$, thereby yielding preliminary support to the third aspect of the sixth hypothesis.

In sum, the first expectation of the sixth hypothesis was partly supported by the fact that the long-term witnesses did not report different scores on the majority of the measures from 2006 to 2008, although they did report a significant (and unexpected) decline in terms of Cognitive Stress Symptoms. The third expectation of the hypothesis was thoroughly supported by the finding that the previous witnesses reported declining levels on all the measures between the two administrations. The second part of the hypothesis was however not supported since the new witnesses in 2008 did not report any significant increase with respect to their values on the respective measures from 2006 to 2008. In fact, this group, alongside the long-term witnesses, reported a significant decrease in terms of Cognitive Stress Symptoms from 2006 to 2008.

DISCUSSION

The primary aim of this present study was to investigate the extent to which witnesses to bullying would be affected by the presence of bullying at work. Most research to date on workplace bullying has examined the aversive consequences for the direct targets of bullying behaviour whereas the reactions and consequences of the witness population has been a topic of less exploration. Research on other forms of psychological aggression at work (i.e sexual or ethnic harassment) than workplace bullying has revealed that employees who observe the mistreatment of their fellow co-workers are at risk of experiencing a decline in their psychological and physical well-being (e.g Miner-Rubina & Cortina, 2004; Low et al., 2007). This thesis aimed to extend previous findings indicating that workplace bullying affects more people than merely the direct targets of psychological aggression (Hoel et al., 2004; Rayner, 1999; Vartia, 2001). In accordance with these previous cross-sectional investigations, this thesis set out to determine whether those participants who reported to be witnesses either in 2006 or in 2008 would show more elevated levels of stress, burnout, negative affect, somatic and cognitive stress symptoms, and whether they would also report lower scores on the general health measure than non-exposed participants. Furthermore, due to the prospective design of the workplace investigation, the long-term effects of witnessing bullying at work could be more closely assessed than in previous studies in which a cross-sectional design was applied.

In this present study, 26% of the 2006 sample and 19% of the 2008 sample reported to have witnessed bullying at work within the past six months. These percentages were higher than the prevalence of observers identified in the Finish investigation of municipal employees (9%; Vartia, 2001), but lower than what was found among British police officers in which a total of 40% reported to have witnessed workplace bullying (Rayner, 2000). Nonetheless, a substantial part of the work force in this present study reported to have encountered bullying of others at work, which in its own respect signals that many employees are experiencing the presence of a negative interpersonal work climate, which in turn might entail serious implications for their well-being and for the organizational effectiveness. This will be debated in a later section.

Assessing the Relationship between Observing Bullying and the Outcomes

The intercorrelations among the variables applied in this present study revealed that the witness to bullying scale was correlated with all the stress, health, and negative affect

measures on both administrations. Furthermore, the negative affect scale was in its own right found to correlate with the stress and burnout measures, which is in line with previous findings that have coupled aversive mood states with self-reported stress and reduced well-being (Beiser, 1974; Kanner et al., 1981; Motowidlo et al., 1986; Schaufeli, 2003). The high correlations observed between the stress and burnout measures were furthermore in line with previous investigations (e.g Kristensen et al., 2005; Maslach et al., 2001). The intercorrelations among the variables thus signalled that variations in terms of witnessing bullying at work tend to co-vary with variations in stress and negative mood levels. The primary aim, however, was to assess whether the self-reported values on the different measures of witnesses to bullying would differ significantly from the non-exposed participants, which is a subject of further elaboration in the next section.

Witnesses to workplace bullying are negatively affected. When compared with their respective control groups, it was observed that the witness group in 2006 and the witness group in 2008 reported significantly more symptoms of somatic and cognitive stress, higher levels of stress and burnout, more state negative affect, and worse general health conditions. These results thus support the first four hypotheses and are as such in line with previous cross-sectional studies that have coupled witnesses of bullying to elevated levels of psychological and psychosomatic stress reactions, reduced well-being, and impaired physical and mental health (e.g Hoel et al., 2004; Vartia, 2001). However, these results were contradictive of the investigation by Hansen et al. (2006) which yielded no significant differences between observers of bullying and a reference group in terms of aversive somatic and mental health symptoms and negative affect.

In so far as negative affect has been conceptualized as a state of feeling upset, being unpleasantly aroused, and generally distressed (Watson et al., 1988), while stress has been conceptualized as a high degree of psychological, emotional, and physiological arousal (Warr, 1990), the high values observed on the NA and the Stress scale signals that those who (currently) were witnesses to workplace bullying at the time of the assessment were also experiencing an elevated state of unease and distress. These results are in line with stress models linking sources of occupational stress with reduced psychological well-being and aversive emotional reactions (e.g Spielberger et al., 2003). The elevated negative affect and stress values can thus reflect a transient state of fear and worry of becoming the perpetrators next target in line with the findings obtained by Rayner (1999). Moreover, the finding that the witnesses report more burnout and worse general health than their control groups comes as no

surprise in so far as impaired psychosomatic health and a high level of burnout are seen as normal responses to interpersonal, psychological, and emotional stressors at work (e.g Maslach et al., 2001).

The cross-sectional data with respect to the first purpose of this investigation did not reveal for how long the self-declared witnesses of 2006 and 2008 had observed bullying at work, thus it is unknown whether they were new to bullying or not. Nevertheless, insofar as the witnesses reported both elevated stress and burnout levels alongside a decline in their general health, the findings suggests that the experience of observing workplace bullying had indeed taken its toll on the participants. These result thus provide support to the rationale behind the prolonged activation perspective (e.g Ursin & Eriksen, 2004), which states that an initial stress responses that is sustained over an extended period of time will lead to a state of “allostatic load” (McEwen, 1998) which in turn is a crucial factor with respect to individuals’ health and well-being. The results are furthermore in line with the perseverative cognition hypothesis (Brosschot et al., 2005) which holds that chronic activation of cognitive representations of stressors, which becomes manifested as anticipatory stress, is the mechanism behind reduced declining health and well-being. Furthermore, these results yield support to the assumption behind the belongingness hypothesis (Baumeister & Leary, 1995) which states that threats to social affiliation is highly associated with stress reactions, negative health outcomes, and reduced well-being. They are also supportive of the studies by Craighead et al. (1979) and Leary (1990) in which potential threats to belongingness and affiliation were found to be closely related to elevated levels of negative affect and physiological arousal.

Implications of the present results. These cross-sectional findings of this present study reaffirm the notion that workplace bullying entails serious implications for everyone within the entire organization or work unit (e.g Hoel et al., 2004; Parzefall & Salin, 2010). Glomb et al. (1997) found that both a high degree of job stress and indirect exposure to psychological aggression at work (i.e observing sexual harassment) entailed detrimental effects on the participants’ job satisfaction and psychological well-being. High degrees of stress, burnout, and negative affect, and low levels of job satisfaction have furthermore been found to enlist potential implications and consequences for the effectiveness and productivity of an organization or a work unit. In particular, organizations often depend on the performance of extra-role pro-social behaviours and intra-individual cooperation from the employees with regards to successfully achieving its’ organizational goals (George, 1991; Nielsen et al.,

2008). Extra-role pro-social behaviours are defined as helpful and altruistic behaviours that employees are not formally required to perform (i.e pro-social organizational citizenship behaviour; Organ, 1989), and which will not entail a formal monetary reward but represent acts that are never the less perceived as essential elements for the optimal functioning of an organization (Katz, 1964). In so far as job satisfaction has been conceptualized as an indicator of positive mood which again is significantly coupled with pro-social organizational behaviour (Motowidlo, 1984; Organ, 1989), elevated levels of state negative affect among employees is thus believed to have an impact on their satisfaction at job and hence their motivation to perform pro-social behaviours with respect to organizational loyalty and commitment. Furthermore, low job satisfaction can in turn lead to a high degree of employee turnover (Pearson et al., 2001; Rayner & Cooper, 1997), which is also a costly affair to organizations.

In sum, the cross-sectional results obtained in this thesis confirm the assumption that non-bullied observers to workplace bullying are at risk of experiencing elevated stress levels which are accompanied with high degrees of negative affect, burnout, reduced well-being, and psychosomatic symptoms.

Assessing the Long-Term Effects of Witnessing Workplace Bullying

The prospective design of the workplace investigation, involving a base-line and a follow-up administration of the questionnaire, made it possible to assess the potential long-term effects of witnessing bullying at work. Besides comparing the witness groups with the control groups, a second aim of this thesis was to compare the long-term witnesses with previous and new witnesses to bullying at work in order to investigate whether these groups would report significantly different values on the respective measures at the second administration of the questionnaire. As such, the reported values of the four re-categorized witness and control groups were compared. According to the perseverative cognition hypothesis, intrusive thoughts that are sustained over a long period of time will lead to impaired well-being and health because these cognitions maintain the elevated levels of physiological activation (i.e stress response) (Brosschot et al., 2005). This was one of the assumptions behind the fifth hypothesis. As such, it was suspected that the long-term witnesses would be more severely affected by the indirect exposure to bullying and by the negative work environment than the new and previous witnesses.

Do long-term witnesses suffer greater consequences than the other groups with respect to psychosomatic health and well-being? The one-way ANOVA test initially revealed that there were significant differences amongst the four groups on the measures of stress, burnout, somatic and cognitive stress symptoms, and negative affect, but no significant differences were observed with respect to the general health measure. The post-hoc test revealed, however, that the differences among the groups in terms of somatic and cognitive stress symptoms were no longer significant.

In accordance with one of the expectations of the fifth hypothesis, the ANOVA post-hoc tests yielded that the long-term witnesses were significantly more stressed and psychologically and physically exhausted (i.e burnout) than the control group, but unexpectedly, this witness group did not report significantly more negative mood states than the control group. Hence, the first part of the fifth hypothesis was both partially supported and rejected. However, the post-hoc tests surprisingly revealed that the long-term witnesses were not significantly more affected than the other witness groups on any of the respective measures, hence rejecting the second aspect of the fifth hypothesis. Arguably, these results indicate that the witnesses who observe bullying over an extensive period of time do not suffer more in terms of aversive psychosomatic health effects than those who witness bullying within a shorter time frame, a finding which is nevertheless a promising result. Since there was no observed difference among the long-term and the cross-sectional (i.e short-time) witnesses with respect to psychosomatic outcomes, it could be argued that despite the prolonged aversive consequences experienced by the long-term witnesses, their suffering is at least not becoming more severe over time. The results could rather be a potential indicator of the argument that witnesses to bullying over time habituate to the hostile work climate and are thus not seriously affected by the presence of negative interpersonal interactions. This assumption will be more thoroughly discussed in the next section.

Interpreting the lack of long-term impacts on behalf of the long-term witnesses. The unexpected results yielding that the long-term witnesses did not differ from the other witness groups, and that the new witness group was the only group that was found to significantly differ from the control group on all the remaining measures of stress, burnout, and negative affect, could be interpreted in light of the assumption offered by Tehrani (2004). As previously mentioned, Tehrani suggests that observers to bullying over time tend to avoid the victims in order to protect themselves from the unpleasant emotional arousal due to feelings of despair, guilt, and distress. Avoidance and denial are two commonly applied coping

strategies when people are faced with distressing events (Lazarus & Folkman, 1984). These types of emotion-focused coping strategies are usually enlisted when individuals appraise that there is nothing they can do to modify the threatening, harmful, and challenging environmental conditions, and thereby focus on strategies that will reduce the emotional distress (Lazarus & Folkman, 1984). These strategies are efficient in terms of reducing the unpleasant emotional arousal originating from the stress of witnessing someone else in suffering and distress (Cohen, 2001). According to Cohen (2001), denial refers to blocking out the disturbing facts from conscious awareness, but may also involve the decision to avoid situations in which the facts are revealed (i.e. avoiding contact with the victims of bullying). From such a cognitive paradigm perspective, the concept of denial is juxtaposed with unconscious cognitive processes involving perceptual and inferential errors (i.e. selective attention), in which attention is gradually diverted away from the wrongdoing or the aversive stimuli in order to avoid the painful truth and managing the following unpleasant emotions (Garnefski, Kraaij, & Spinhoven, 2000).

The finding that long-term witnesses were not significantly different from the other witness groups on the respective measures could indicate that the long-time observers have successfully applied the coping strategies of avoidance or denial. Furthermore, it could indicate that long-term witnesses gradually habituate to the hostile and fear-inducing working climate and are as such more able to cope with feelings of emotional and psychosomatic distress. According to Cohen (2001), as aversive acts are repeatedly observed, over time a process of habituation and normalization (i.e. cognitive filters) take the front stage in such that people become accustomed to the occurrence of the negative acts, leading individuals to take less notice of the implications. In so far as the new witnesses group was found to report a slightly higher level of state negative affect than the long-term witnesses at T2 and was also found to significantly differ from the control group on the three measures, it could be argued that this group, as compared to the long-term witnesses, has not yet come to terms with how they should cope with the emotional distress of witnessing the bullying of co-workers. These suggestions are in line with the indications offered by Einarsen et al., (1994), who stated that observers of bullying initially sympathize with the victims and react with anger and despair towards the mistreatment of fellow co-workers, before they over time come to change their appraisal and conception of the targets as blameworthy of their own distress. As such, the long-term witnesses may have reduced their levels of stress and negative affect because they over time come to appraise the situation of the victim in a more non-sympathetic and unsupportive light (i.e. avoidance, denial), whereas those who are new to the experience of

bullying might be in awe by the negative treatment of fellow co-workers or by the hostile work climate, and thereby suffer from the accompanying unpleasant but transient emotional and psychosomatic reactions.

However, these lines of thoughts are merely speculations in so far as the quantitative design of this study makes it difficult to confirm whether the observers actually behave in accordance with the assumptions provided by Einarsen et al., (1994) and Tehrani (2004). Furthermore, research has revealed that witnesses to bullying do not necessarily represent a homogenous population but are rather found to report different reactions and appraisals with respect to the bullying situation and the victims in distress (Bloch, 2011). Hence, it might very well be that a sample of this particular population will not yield a clear result on the various measures, arguing for the potential benefit of future studies to approach this field of interest by employing a multi-method design using both quantitative and qualitative methods of assessment.

Discussing the Observed Within-Group Variation

The last hypothesis concerned the extent to which the different witness groups would report different values on the respective measures from the baseline (T1) to the follow-up (T2) administration. As expected, and in line with the prolonged physiological activation perspective (e.g. Ursin & Eriksen, 2004), the long-term witnesses somewhat maintained their high levels of stress, burnout, somatic stress symptoms, and negative affect from T1 to T2, but unexpectedly, their values on the cognitive stress symptoms measure declined from the baseline to the follow-up administration. The potential reason behind this finding will be debated later in this section. None of the groups differed from T1 to T2 in terms of their reported values on the General Health measure, indicating that the participants' general somatic health condition was not significantly affected over time despite the fact that they had observed bullying at work, either on a long-term or a short-term basis.

Furthermore, and in line with the predictions of the hypothesis H6c, the previous witnesses were found to report a decline in terms of their levels on all the remaining measures of stress, somatic and cognitive stress symptoms, and burnout, alongside a decrease in terms of state negative affect from the baseline to the follow-up. Accordingly, this latter result indicates that the psychosomatic, psychological, and emotional consequences of witnessing bullying at work are significantly reduced when people are no longer observing bullying behaviours directed towards others. This result is furthermore in line with the stress paradigm

which argues that exposure to stressors that is not sustained over time will not in its own right pose a great risk to individual health and well-being (Ursin & Eriksen, 2004).

With regard to aversive mood states, and according to George (1991) and Watson et al. (1988), within-subject variation in negative affect is influenced by external and situational factors and the person-situation interaction. The finding that the previous witnesses showed a decline in state negative affect from 2006 to 2008 could indeed indicate that the external and situational inputs must have somehow changed between the two administrations. In so far as they reported to no longer witness bullying in 2008, the low state NA at T2 as compared to T1 could reflect that these participants are more emotionally calm and relaxed now that bullying is seemingly no longer present in their occupational surroundings.

It was, however, a surprise to discover that the new witnesses did not report significantly elevated values on the measures from T1 to T2, thus rejecting the second expectation of the sixth hypothesis (H6b). In fact, their mean values were found to actually decline from the 2006 to the 2008 administration, although their levels on the respective measures were within the same range as the values of the long-term witnesses. A potential explanation could be that they had not yet reached a high level of stress. On the other hand, and insofar as bullying is often conceptualized as a gradual and escalating process in which the first phases are characterized by covert and subtle negative acts due to an unresolved conflict or frustration (e.g Einarsen, 1999; Rayner & Cooper, 2006), the new witnesses might have already noticed a tension in the work climate in 2006, making them report high stress levels already at the first administration. This suggestion is in accordance with the anticipatory stress perspective which states that worry and rumination over stressful events that might occur in the future has the potential to elicit a stress response that has as strong an impact on the individual as if the event was actually occurring (Brosschot et al., 2010). However, there might have been other factors at work which led them to report high levels on the respective measures at the 2006 administration, but it is beyond the scope of this investigation to further explore this line of thought.

With regards to the values of the cognitive stress symptoms measure from T1 to T2, the new witness group was alongside the other two witness groups also found to report significantly lower values at the second administration. The cognitive stress symptom measure contains, as previously described, only three items regarding cognitive impairments in terms of memory, decision making, and thinking clearly. In so far as observers to bullying are not found to display as severe psychosomatic consequences and stress levels as the bullied victims (e.g Lutgen-Sandvik et al., 2007; Vartia, 2001) perhaps the cognitive stress symptom

scale better addresses the experiences of those who are more directly suffering the consequences of bullying than the ones who are merely observing it.

Limitations to the Present Study

First and foremost, due to the open and non-randomized recruitment procedure of organizations to the Workplace Investigation 2006/2008, the sample in this present study is not representative of the entire Danish working population, thus constituting a threat to the external validity of the study (Pedhazur & Schmelkin, 1991). The decision to engage in such recruitment procedures was, however, seen as a necessary pre-condition in order to enrol organizations and participants who were willing to partake in several sub-projects of the workplace investigation (Hogh et al., 2009). As a natural consequence, some occupational sectors, such as health care and education, are overly represented within the sample whereas the employee population within the public and private administration and the hospitality sectors are not thoroughly represented by the sample (Hogh et al., 2009). Hence, the gender ratio of the sample is also skewed compared to the population of interest. As such, the generalizability of the results in this present study is limited to organizations with similar work characteristics, gender ratios, and hierarchical structures as the volunteered organizations participating in the Workplace Investigation 2006/2008.

Secondly, the fact that only 49% of the participants who responded in 2006 also responded to the second administration of the questionnaire could affect the overall results and thus obscure the subsequent analyses. This high drop-out with respect to the follow-up response rate is a common problem in longitudinal research (Pedhazur & Schmelkin, 1991).

A third limitation to this investigation concerns the application of self-report data. The reliance of self-report data is identified as a well-known source of common-method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Research has discovered that respondents tend to have a desire to maintain consistency in their responses to similar items and questions, a self-report bias referred to as consistency motif (Podsakoff & Organ, 1986), thereby artificially inflating the relationship between factors and variables that might not be present on the same level in real-life settings. This consistency motif artefact is found to be particularly problematic in those research settings in which the participants are asked to provide retrospective accounts of their perceptions, attitudes, and behaviours (Podsakoff et al., 2003), which is the case in this present study.

The participants' responses to the scales and items applied in this present study might also have been affected by context-induced mood. The bias of context-induced mood refers to

the setting in which some (set of) questions or items of the questionnaire induce a particular mood for responding to the remaining items of the questionnaire (Podsakoff et al., 2003). Items and wordings of a scale might evoke the participants' suspicion regarding the investigation's intent or purpose which in turn can predispose the participants to respond in a certain manner, and thereby produce artificially magnified values and scores. In so far as the section on the degree of exposure to bullying in the questionnaire applied in the present study is located before the stress, health, mood, and burnout items, the participants might have already got a hunch with respect to the purpose of the investigation. Furthermore, this specific order of items and scales in the questionnaire might also have suffered under the bias referred to as item priming effects (Salancik, 1984). This priming effect bias occurs when items and questions concerning specific features of the work environment make other aspects of the work environment more salient in the minds of the participants than they would have been if the preceding items were not presented in the first place. In so far as the participants of the present study were presented with items and scales concerning negative acts at work and the nature of conflicts at work before the scales of interest applied in this thesis (see appendix 1), these items could have influenced their subsequent response to the items measuring their levels of stress, burnout, and negative moods. Hence, the ordering of the items and scales in the questionnaire might have led the participants to overestimate their subjective levels of stress and negative mood, leading to artificially high mean values of the witness sample on the respective measures. Another pitfall to the application of a follow-up administration concerns maturation effects, referred to as changes that the participants go through with the passage of time including gaining experience (e.g. learning), or growing tired of the items in the questionnaire (e.g. motivation) (Pedhazur & Schmelkin, 1991). Maturation effects may in turn promote acquiescence response set bias, which refers to the participants' tendency to carelessly agree or disagree with the statements or items of a questionnaire regardless of the content, a bias which has the potential to cause spurious relations between variables (Winkler, Kanouse, & Ware, 1982). On the other hand, research has revealed that paper-and-pencil or computer-administered questionnaires, as is applied in this present study, yield lower rates of social desirability bias and higher response accuracy than face-to-face interviews (Richman, Kiesler, Weisband, & Drasgow, 1999).

Concluding remarks

Although it was beyond the scope and possibilities of this study to investigate the extent to which the witnesses acted in accordance with the passive co-perpetrator view or not,

this study does at least provide empirical support to the co-victimization perspective through the revelation that witnesses to bullying experience more stress, burnout, stress symptoms, negative affect, and worse health than employees not acquainted with bullying at work. What seems reasonable to suggest in light of both the cross-sectional and the longitudinal results, is that witnessing bullying per se is a significant source of psychological discomfort and stress, regardless of whether it is accompanied with impaired somatic health or not. Future studies on the reactions of the observers to bullying should apply a mixed method design consisting of both quantitative and qualitative data in order to gain a more thorough and elaborate insight into the experiences of the non-bullied witnesses.

With respect to preventing the occurrence of workplace bullying, bullying should first of all be framed as a problem that concerns the entire social group rather than just the victim and the perpetrator. Second, by letting managers and employees become aware of the intense emotional pain and the psychosomatic consequences that so often is experienced by both bullying victims and the observers, early signs of psychological aggression and negative acts at work can more easily be detected and facilitate early intervention which may prevent an incident from unfolding into an escalated bullying process (Tracy, Lutgen-Sandvik & Alberts, 2006). According to Bowes-Sperry and O'Leary-Kelly (2005), observers to bullying at work are more eligible with respect to intervening on behalf of the target and putting an end to the bullying behaviour than the victims themselves. It is assumed that establishing an ethical organizational climate and culture in which reports of questionable behaviour is encouraged, will promote peer intervention (i.e whistle-blowing) (Miceli & Near, 1985). Making employees assure that peer-reporting will neither receive negative feedback nor retaliation from higher authorities, is also believed to facilitate observer intervention (Miceli & Near, 2002). However, as previously debated in this thesis, intervention is not a clear-cut procedure, but may unintentionally contribute to the escalation of a conflict through making the previously informal disagreement take on a more formal character (by involving the management), thus highlighting the presence of a problem and potentially fuel the polarization between the disagreeing subjects or parties. Accordingly, what seems to be the most effective solution for managements with respect to the prevention of workplace bullying, is to establish clear policies regarding the interpersonal conduct in the organization, have clearly established work roles and unambiguous task distributions, enhance the quality of leadership abilities, and in general strive towards facilitating favourable work conditions and a healthy psychosocial work environment. Organizations should understand the importance of promoting these factors in so far as both previous research and this present study have found

that not only the minority of targeted victims of bullying is suffering from the negative behaviours, but also the larger group of witnesses is affected by the consequences of bullying in terms of reduced psychological, occupational, and health-related well-being.

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