



Investigating the psychological impact of bank robbery: A cohort study



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ABSTRACT

Despite numerous annual bank robberies worldwide, research in the psychological sequelae of bank robberies is sparse and characterized by several limitations. To overcome these limitations we investigated the psychological impact of bank robbery in a cohort study by comparing general levels of traumatization and somatization in employees never exposed to robbery and employees exposed to robbery at different degrees and time-points, while controlling for selected risk factors of posttraumatic distress. Multivariate regression analyses showed that only the acute directly exposed robbery group which had a significantly higher score on general traumatization and somatization compared to the control group whilst controlling for other factors. In conclusion, bank robbery exposure appears to be especially associated with psychological distress in the acute phase and in victims present during the robbery. After the acute phase, other factors appear more important in predicting general traumatization and somatization in bank employees compared to exposure to robbery.

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1. Introduction

Despite numerous annual bank robberies worldwide, research into its psychological sequelae has been limited (Hansen & Elklit, 2011, 2013; Miller-Burke, Attridge, & Fass, 1999). In Denmark, the number of bank robberies has varied in the past ten years, ranging from 69 to 182. Current figures are relatively low (71 in 2012; the Danish Bankers Association, 2013). The decrease in the annual number of bank robberies is the result of several preventative actions taken against bank robbery; for example cashless bank branches, machines for cash depositing, surveillance, and cash recycling machines. The limited research into the psychological impact of bank robbery has shown that bank robberies are associated with both acute and long-term posttraumatic symptoms. However, all of the studies have been based on convenience samples, and only one study can be regarded as having a large sample ($N = 303$) (Kamphuis & Emmelkamp, 1998). Moreover, only one cross-sectional study has included a control group of employees never exposed to robbery in which a higher degree of distress was found in the robbery group (Kamphuis & Emmelkamp, 1998). Across studies, no attempts were made to statistically control the existing differences between the groups. Thus, factors other than robbery exposure may explain the higher distress level found in the robbery group. Furthermore, proximity

to the robber, which is found to be positively associated with posttraumatic symptomatology, was not assessed (cf., Miller-Burke et al., 1999).

The aim of the current study was to clarify the psychological impact of robbery by investigating whether robbery exposure at different degrees is a significant risk factor of general traumatization (i.e., the emotional effects of trauma) and somatization; while controlling for the effect of selected risk factors at two time-points. The risk factors were selected based on previous bank robbery studies and studies of other types of nonsexual assault (Brewin, Andrews, & Valentine, 2000; Christiansen & Elklit, 2008; Hansen & Elklit, 2011, 2013; Kamphuis & Emmelkamp, 1998; Miller-Burke et al., 1999). The selection of risk factors was also informed by Ehlers and Clark's (2000) cognitive model of posttraumatic stress disorder (PTSD). The selected risk factors were younger age, female sex, prior traumatic exposure, life events, coping styles, perceived social support, and cognitions. Female sex, younger age, prior traumatic exposure, exposure to major life events, coping styles, and lack of social support have been found associated with increased posttraumatic distress following bank robbery as well as other types of non-sexual assault (Brewin et al., 2000; Christiansen & Elklit, 2008; Hansen & Elklit, 2011, 2013; Kamphuis & Emmelkamp, 1998; Miller-Burke et al., 1999). Different aspects of negative cognitive responses to traumatic exposure have been found to be predictive of posttraumatic symptoms following different forms of traumatic exposure including bank robbery (Hansen & Elklit, 2011, 2013; Karl, Rabe, Zöllner, Maercker, & Stopa, 2009; Kleim, Ehlers, & Glucksman, 2007; Nixon & Bryant, 2005). These cognitive responses not only concern negative

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appraisals of the trauma and its subsequent implications but also maladaptive thinking associated with panic (i.e., a heightened awareness of bodily sensations and the tendency to interpret these sensations catastrophically) (cf., Nixon & Bryant, 2005). Thus, in accordance with the previous research and a cognitive theory of PTSD, we treat negative posttraumatic cognitions as a risk factor of psychological distress in the present study and not as an outcome.

Based on the extant literature we hypothesized that a significantly higher degree of traumatization and somatization would be found in the robbery exposed groups compared to the never exposed control group whilst controlling for selected risk factors in both the studies. The groups were categorized into four groups by those who were (1) in the room during the robbery (i.e., the directly exposed robbery group); (2) those who were in adjoining rooms to where the robbery took place (i.e., the indirectly exposed robbery group); (3) those who were exposed to robbery more than one year ago (i.e., the robbery exposed control group); and (4) those who were never exposed to robbery (i.e., the never exposed control group). We expected that prior robbery exposure would significantly predict traumatization and somatization at both time-points whilst controlling for the effect of all the selected risk factors.

2. Method

The current study is the part of Danish questionnaire survey of the psychological impact of bank robberies including a control group study conducted in collaboration with the Danish Bankers Association, the National Bank of Denmark, and the University of Southern Denmark. All necessary permissions for conducting this study, according to Danish law, were obtained. Participation was voluntary. Please see Hansen and Elklit (2014) for further details on the study.

2.1. Measures

The questionnaires administered to the two samples (i.e., the robbery sample and the control group sample) were identical with the exception of questions directly related to robbery exposure. Only the questions relevant for this study are described in the following. Prior traumatic exposure was assessed by asking the participants whether they had experienced 14 different kinds of traumas. Traumatic exposure was grouped as interpersonal trauma, non-interpersonal trauma, and unspecified traumas as research shows that interpersonal traumas are more traumatizing (Forbes et al., 2012). The experience of recent life events was assessed in an open-ended questions. All reliability coefficients on the following scales were satisfactory (study 1 and study 2 = .71–.92) except detached coping, which was excluded from further analysis.

2.2. Trauma symptom checklist (TSC; Briere & Runtz, 1989)

A revised Danish version of the TSC total score (TSC; Briere & Runtz, 1989) was used as an indicator of general traumatization. The revised TSC comprises 26 items rated on a four-point Likert scale (1 = *never*, 4 = *always*) (Krog & Duel, 2003). The Danish TSC-26 is a valid and reliable measure of general posttraumatic stress symptoms (Krog & Duel, 2003).

2.3. Symptom checklist revised somatization subscale (SCL-90-R; Derogatis, 1994)

The total score of the somatization subscale of the Danish version of the SCL-90-R (Derogatis, 1994) was used as an indicator of somatization. The Danish SCL-90-R somatization subscale is a 12 item list of common somatic symptoms rated on a five-point Likert scale (0 = *not at all*, 4 = *extremely*) (Olsen, Mortensen, & Bech, 2004).

The SCL-somatization subscale is a valid and reliable measure of symptoms of somatization (Olsen et al., 2004).

2.4. Posttraumatic cognition inventory (PTCI; Foa, Ehlers, Clark, Tolin, & Orsillo, 1999)

Cognitions were assessed in relation to the robbery in the bank robbery sample and in relation to the stated stressful event in the control group sample using the PTCI (Foa et al., 1999). The PTCI is a 33 item self-report scale with three subscales assessing negative cognitions about self (NCS), negative cognitions about the world (NCW), and self-blame (SB) rated on a seven-point Likert Scale (1 = *totally disagree*, 7 = *totally agree*). The total scores of the three subscales were used as indicators of NCS, NSW, and self-blame, respectively. The original English version of the PTCI was translated into Danish by two independent translators, who were fluent in both Danish and English. The two translations were compared and combined into a single translation by the two translators (i.e., the committee approach; Simonsen & Elklit, 2008), which was then back-translated into English by a third translator. The third translator (or back-translator) was also fluent in both Danish and English. The back-translation was then compared to the original English items with a very high correspondence in relation to conveying the meaning. The PTCI demonstrated a valid and reliable measure of trauma-related cognitions (cf. Beck et al., 2004; Foa et al., 1999).

2.5. Anxiety sensitivity index (ASI; Reiss, Peterson, & McNally, 1986)

The total score of the Danish version of the ASI (Reiss et al., 1986) was used to assess proneness to panic reactions. The ASI is a 16-item questionnaire that measures the participants' belief about the harmfulness of anxiety symptoms on a five-point Likert scale (1 = *very little*, 5 = *very much*). Good test–retest reliability (.75) and construct validity have been reported (Reiss et al., 1986).

2.6. Coping styles questionnaire (CSQ; Roger, Jarvis, & Narajin, 1993)

Coping style was assessed in relation to how the participants generally deal with stressful events using a revised Danish version of the CSQ (Roger et al., 1993). The revised CSQ has 37 items and preserved the four primary coping components assessed by total scores on the four subscales: rational (problem-focused) coping, emotion-focused coping, avoidant coping, and detached coping rated on a four-point Likert scale (1 = *never*, to 4 = *always*) (Elklit, 1996). The Danish version of the CSQ has been shown to have good validity and reliability (Elklit, 1996).

2.7. Crisis support scale (CSS; Joseph, Andrews, Williams, & Yule, 1992)

Perceived social support was assessed in relation to the robbery in the bank robbery sample and the stated stressful event in the control group sample using the total score of the Danish version of the CSS (Joseph et al., 1992), which is comprised of seven items (Elklit, Pedersen, & Jind, 2001). The answers are rated on a seven-point Likert-type scale (1 = *never*, to 7 = *always* on the first six items, and 1 = *very unsatisfied*, to 7 = *very satisfied* on the last item). The Danish version of the CSS has been shown to have good reliability and validity (Elklit et al., 2001).

2.8. Measures used only in the bank robbery sample

2.8.1. Acute stress disorder scale (ASDS; Bryant, Moulds, & Guthrie, 2000)

ASD severity was assessed at T1 using the Danish version of the ASDS (Bryant et al., 2000). The ASDS is a 19 item self-report scale

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