Intrusive imagery in psychopathology:

New research findings, implications for theory and treatment, and future directions

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Intrusive images of a traumatic event are a main feature of posttraumatic stress disorder (PTSD; American Psychiatric Association, 2000). These mental images are sensory ‘flashbacks’ to the time of the trauma during which the survivor relives the sights, sounds, smells, bodily sensations, and/or emotional state of that moment. Experiencing these intrusive images can be very stressful and it is therefore highly important to investigate their development and maintenance. In PTSD, intrusive images are rather striking and are, perhaps for this reason, a key diagnostic criterion according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR, APA, 2000). Cognitive models of PTSD provide relatively detailed accounts of intrusion development (e.g., Ehlers & Clark, 2000; Brewin, Dalgleish, & Joseph, 1996) and experimental paradigms are available to induce intrusions in order to study them under controlled circumstances (e.g. Holmes & Bourne, 2008). It is therefore not surprising that much of the research on mental imagery in psychopathology has focused on intrusive images in PTSD. This trend is reflected in this special issue as the first part provides new research findings on intrusive images specifically in the context of PTSD.

Intrusive images that originate from the memory of a direct experience, such as flashbacks in PTSD, are one form of the broader concept of mental imagery. Other examples include events that have not happened in reality such as fantasies, (day)dreams, distorted memories and hallucinations. Different forms of mental imagery have in common that the imagery is not a result of direct sensory input at that moment, but is brought to life from memory or imagination (Hackmann & Holmes, 2004). Intrusive mental imagery, then, is defined as images that pop into consciousness involuntarily and uncontrollably. This is in contrast to deliberate memory, which refers to the retrieval from autobiographical memory more or less at will. The study of mental imagery within a clinical context is highly interesting for psychology as a discipline. Until recently, mental imagery was primarily studied by cognitive psychologists, who investigated “normal” (i.e., non-clinical) and
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deliberately generated imagery (e.g., Kosslyn, Thompson, & Ganis, 2006). Clinical psychology, however, has a strong tradition of focusing primarily on verbal processes, e.g., as in cognitive therapy (Beck, 1976; Hackmann & Holmes, 2004). Only recently, a rapidly growing research interest in imagery in psychopathology has started to combine these fields of research. This shift may be considered intuitive, as mental imagery has been shown to have a powerful link with emotion (Holmes & Mathews, 2005, 2010; Holmes, Mathews, Mackintosh, & Dalgleish, 2008) and some commentators have suggested that imagery provides a doorway to the ‘meanings’ that are central to cognitive therapy (Beck, 1976; Hackmann & Holmes, 2004). Clinically, innovative treatment methods have been developed that address imagery directly, such as imagery rescripting techniques (Arntz & Weertman, 1999; Holmes, Arntz, & Smucker, 2007; Wheatley, Hackmann, & Brewin, 2009).

Intrusive images are likely to develop in the aftermath of a traumatic experience. A traumatic experience is defined as a direct personal experience involving actual or threatened death or injury, witnessing such an event happening to another person or learning about such an unexpected event happening to someone who is close to you (APA, 2000). The lifetime prevalence for exposure to such a traumatic event is high (i.e., 28% to 89.6% depending on the country; Hepp et al., 2006; Breslau et al., 1996). Therefore, the factors involved in the initial development of intrusive images need to be understood. According to cognitive models of PTSD (Ehlers & Clark, 2000; Brewin et al., 1996), such factors consist of, amongst others, encoding processes involving working memory (Pearson & Sawyer, 2010, this issue), pre-existing individual differences, and peri-traumatic factors (e.g., trait and state dissociation; see Hagenaars & Krans, 2010, this issue). Although lifetime risk for a traumatic event is high, the occurrence of full-blown PTSD, fortunately, is not. For example, Hepp et al. (2006) found a 12-month prevalence of 1.30%, although prevalence rates vary according to trauma type (e.g., up to 50% for rape; Lee & Young, 2001). The wide variation in the rates of PTSD both
between individuals and across trauma types indicates that there may be specific factors involved in the maintenance of key symptoms that vary. The hallmark symptom of PTSD is intrusive images – flashbacks – and this is the focus of the current special issue. Avoidance is a notorious maintaining factor in anxiety in general (Beck, 1976) and PTSD specifically (Ehlers & Clark, 2000; Brewin et al., 1996). Cognitive avoidance via the suppression of intrusive images has been suggested as a key factor in intrusion maintenance (Nixon, Wilksch, & Hosking, 2010, this issue). In sum, the goal of better understanding the underlying mechanisms of intrusion development and maintenance is an important one for both clinical psychology and our theoretical understanding of human memory more broadly.

The first aim of this special issue is to provide the reader with the latest fundamental research findings of basic mechanisms underlying intrusion development and maintenance. The contributions by Pearson and Sawyer (2010), Nixon, Wilksch, and Hosking (2010), and Hagenaars and Krans (2010) have made use of a long tradition of studying stress symptoms under controlled settings: the trauma film paradigm (Horowitz, 1969; Holmes & Bourne, 2008). Within this paradigm, healthy participants view aversive film clips or pictures as an analogue trauma that induces negative emotion and, most importantly, intrusions. In this controlled laboratory environment many theoretical hypotheses may be addressed that cannot be tested in actual PTSD patients for ethical and practical reasons. For example, theoretical hypotheses regarding variables that influence the encoding of trauma cannot be tested in individuals who have already experienced a trauma.

By studying intrusion development using analogue trauma stressors, it is assumed that intrusive images can be placed on a continuum from everyday occurrences to highly emotional flashbacks reported by PTSD patients. That is, although intensity may vary, the underlying processes are the same. Support for this notion has been reviewed by Holmes (2004). Krans, Näring, Speckens and Becker (2010, this issue) report a study of self-
generated traumatic intrusive imagery showing striking similarities with intrusive images developed from direct visual input from a trauma film (see also Krans, Näring, Holmes, & Becker, 2009). This study addresses intrusive images resulting from self-generated imagery in contrast to resulting from direct visual input. Even in PTSD patients some intrusions may be distorted memories or fantasies related to the traumatic event (Holmes, Grey, & Young, 2005).

In order to verify the generalisability of laboratory findings similar studies need to be conducted within the target clinical populations. The second aim of this special issue is to promote translational research on intrusive experiences. The contribution by Ehring, Kleim and Ehlers (2010) addresses this issue by providing a guideline for translational research in this area.

Intrusive images, as noted, are highly striking in PTSD, and also in acute stress disorder (ASD; APA, 2000). However, there is growing a consensus that intrusions are actually a transdiagnostic symptom. That is, a process that occurs across a range of psychological disorders. For example, intrusive images have been reported in social phobia (Hackmann, Clark, & McManus, 2000), bipolar disorder (Holmes, Geddes, Colom, & Goodwin, 2008), depressive disorder (Newby & Moulds, in press), obsessive compulsive disorder (de Silva, 1986), and other disorders (see for reviews Hackmann & Holmes, 2004; Clark, 2005; Holmes & Mathews, 2010). The third aim of this special issue is to inspire innovative ideas for future research on mental imagery in psychopathology as a transdiagnostic phenomenon. Newby and Moulds (2010, this issue) present exciting new data on the predictive value of negative appraisals in regard to having intrusive memories on depression over time. This study is one of the first to approach intrusive memories as a transdiagnostic phenomenon using an elegant research design in a depressed population. Also from a transdiagnostic perspective, Deeprose, Malik, and Holmes (2010) present a new
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measure of intrusive imagery of future events within the context of bipolar disorder. This contribution provides a potential clinical tool to assess prospective intrusive imagery. The emphasis on prospection, that is future thinking, is a new direction which complements the main focus to date on intrusive images of / from past events.

To summarise, this special issue provides the reader with (1) new research findings on the factors that underlie intrusion development and maintenance within the context of PTSD, (2) a guideline for translational research in this area, and (3) studies with a broader perspective on intrusive mental imagery in psychopathology - in line with increasing evidence that images of the future as well as the past are transdiagnostic phenomena. By including a broad scope of contributions, we believe that this special issue presents studies that are both interesting and relevant to both fundamental researchers and research-minded clinicians. Experts Michelle L. Moulds and Emily A. Holmes (2010, this issue) provide an excellent commentary that reviews the findings presented in this special issue according to three highly interesting and relevant questions: Must an event be experienced in order for it to become intrusive? Are some people more prone to developing intrusions? And can we reduce the likelihood of developing intrusions by manipulating processing at encoding? To proceed, please engage in this brief imagery exercise: Imagine yourself with a free diary and the entire afternoon to retreat to your favourite library to read these new and exciting papers.
References


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