



# The influence of non-clinical eating-related psychopathology on the recognition of emotion from static faces and realistic social interactions



Deborah J. Wallis<sup>a,\*</sup>, Nathan Ridout<sup>b</sup>, Emma Sharpe<sup>a</sup>

<sup>a</sup> Centre for Eating Disorders, School of Sport, Exercise and Health Sciences, Loughborough University, Loughborough LE11 3TU, UK

<sup>b</sup> Department of Psychology, School of Life and Health Sciences, Aston University, Birmingham B4 7ET, UK.

## ARTICLE INFO

### Keywords:

Facial emotion recognition  
Eating psychopathology  
Disordered eating  
Drive for thinness  
Anger

## ABSTRACT

Emotion recognition deficits have consistently been reported in clinical and sub-clinical disordered eating. However, most studies have used static faces, despite the dynamic nature of everyday social interactions. The current aims were to confirm previous findings of emotion recognition deficits in non-clinical disordered eating and to determine if these deficits would be more evident in response to static as compared to dynamic emotional stimuli. We also aimed to establish if these emotion recognition deficits could be explained by comorbid psychopathology (depression, anxiety or alexithymia). Eighty-nine females were assigned to groups based on scores on the Eating Disorders Inventory (EDI); high ( $n = 45$ ) and low ( $n = 44$ ). Participants were presented with emotional faces and video clips portraying fear, anger, disgust, sadness, happiness, surprise and neutral affect. As predicted, the high EDI group correctly recognised fewer emotional displays than did the low EDI group. However, this deficit was not more evident for negative as opposed to positive emotions. Furthermore, the deficit was not larger for static stimuli in comparison to dynamic. Overall emotion recognition accuracy was negatively associated with Drive for Thinness, but not Bulimia or Body Dissatisfaction. Importantly, the emotion recognition deficits observed in the high EDI group and that were associated with eating disorder symptoms were independent of depression, anxiety and alexithymia. Findings confirm that even minor elevations in disordered eating are associated with poorer emotion recognition. This is important, as problems in recognition of the emotional displays of others are thought to be a risk factor for clinical eating disorders.

## 1. Introduction

The ability to accurately interpret the emotional intentions of others is crucial for successful functioning in social situations. There is substantial evidence that patients with clinically diagnosed eating disorders display significant deficits in the recognition of emotion from faces (Kucharska-Pietura, Nikolaou, Masiak, & Treasure, 2004) and in their ability to interpret social events (Bydlowski et al., 2005). Some studies have reported a general deficit in facial emotion recognition (Zonnevijlle-Bender et al., 2002), whilst others have reported emotion specific impairments in EDs (e.g. Dapelo, Surguladze, Morris & Tchanturia, 2016; Legenbauer, Vocks & Ruddel, 2008). However, other studies have demonstrated no evidence of impaired emotion recognition in patients with eating disorders (e.g. Kessler, Schwarze, Filipic, Traue, & von Wietersheim, 2006; Mendlewicz, Linkowski, Bazelmans, & Philippot, 2005). Nevertheless, a recent systematic review and meta-analysis (Caglar-Nazali et al., 2014) demonstrated robust evidence that eating disorders are associated with impaired facial emotion recognition. Despite this, it is not entirely clear if these deficits are independent

of comorbid psychopathology, such as depression (Mendlewicz et al., 2005) or alexithymia (Brewer, Cook, Cardi, Treasure, & Bird, 2015). Alexithymia is characterised by a difficulty with describing and identifying one's own feelings, an absence of fantasies, and an externally oriented analytical cognitive style (Taylor & Bagby, 2000) and is highly prevalent in eating disorders (Nowakowski, McFarlane & Cassin, 2013).

Significant relationships have been observed between emotion recognition deficits and poor social functioning in patients with schizophrenia (Hooker & Park, 2002) and autistic spectrum disorders (Trevisan & Birmingham, 2016). Furthermore, in the context of eating disorders, it has been argued by Oldershaw et al. (2011) that a reduced sensitivity in recognising emotional expressions of others could lead to misunderstandings during social interactions, which may undermine or inhibit the formation of significant social bonds. Moreover, as argued by Harrison, Sullivan, Tchanturia and Treasure (2009), difficulties in recognising the expressions of others are likely to make social interactions stressful, leading to avoidance of such interactions. Indeed, research has shown that those who go on to develop eating disorders are frequently shy with few friends (Fairburn & Harrison, 2003), and often

\* Corresponding author at: School of Applied Social Sciences, Hawthorn Building, De Montfort University, Leicester, LE1 9BH, United Kingdom.  
E-mail addresses: [debbie.wallis@dmu.ac.uk](mailto:debbie.wallis@dmu.ac.uk), [e.sharpe@derby.ac.uk](mailto:e.sharpe@derby.ac.uk) (D.J. Wallis), [n.ridout@aston.ac.uk](mailto:n.ridout@aston.ac.uk) (E. Sharpe).

experience social isolation or inadequate interpersonal relationships (Jackson, Weiss, Lunquist, & Soderlind, 2005; McClintok & Evans, 2001). As a result, difficulties in this area are thought to play a key role in the development and maintenance of eating disorders (Schmidt & Treasure, 2006).

In addition to studies examining emotion recognition deficits in clinically diagnosed eating disorders there is a growing body of evidence demonstrating that the same emotion recognition difficulties are present in individuals with sub-clinical disordered eating (Jones, Harmer, Cowen, & Cooper, 2008; Ridout, Thom, & Wallis, 2010; Ridout, Wallis, Autwal, & Sellis, 2012). This is important because many of these 'at risk' individuals will go on to develop clinically diagnosed eating disorders (Pringle, Harmer, & Cooper, 2010). This evidence is also consistent with the notion that emotion recognition deficits may play a key role in the development of disordered eating (Schmidt & Treasure, 2006). However, this proposal has yet to be explored longitudinally, and this is not within the remit of the present study.

In line with the literature in eating disorders, most studies examining emotion recognition in sub-clinical disordered eating have used static photographs of emotional faces (Jones et al., 2008; Ridout et al., 2012; Sharpe, Wallis, & Ridout, 2016). The only exception is the study by Ridout et al. (2010) who used dynamic emotional stimuli (The Awareness of Social Inference Test; TASIT, McDonald, Flanagan, & Rollins, 2002), which are arguably closer to everyday social interactions. However, interestingly, Gramaglia et al. (2016) compared emotion recognition performance in patients with eating disorders on dynamic (TASIT) and static faces and reported deficits on static faces, but not the dynamic stimuli. They argued that this was because interpreting the social signals present in static images is likely to be more complex than decoding emotions from dynamic stimuli. With this in mind, it would be interesting to conduct such a direct comparison in a sample of participants with subclinical disordered eating.

Therefore, the aims of the current study were to confirm previous findings of emotion recognition deficits in non-clinical disordered eating and to determine if these deficits would be more evident in response to static as compared to dynamic emotional stimuli. We also aimed to establish if these emotion recognition deficits could be explained by comorbid psychopathology (depression, anxiety or alexithymia).

High and low scorers on the Eating Disorders Inventory (EDI) were presented with a series of static faces depicting seven different emotional expressions (happiness, sadness, anger, fear, disgust, surprise and neutral affect) and a set of video clips featuring dynamic social interactions involving the same emotional expressions. For both sets of stimuli participants were asked to identify the emotion portrayed. Participants also completed measures of mood (depression and anxiety) and alexithymia. Based on previous research findings (Jones et al., 2008; Ridout et al., 2010; Ridout et al., 2012; Sharpe et al., 2016), it was predicted that high scorers on the EDI would correctly identify fewer emotional expressions than would low EDI scorers. It is expected that the deficit would be more evident for negative than positive emotional expressions, in line with previous work (Kucharska-Pietura et al., 2004; Ridout et al., 2012). Furthermore, in line with Gramaglia et al. (2016), it was expected that the emotion recognition deficits would be more evident in the static faces than the dynamic stimuli.

## 2. Method

### 2.1. Participants

Eighty-nine females took part in the study, all of whom were undergraduate psychology students recruited via poster advertisements and word of mouth. Volunteers were not compensated for taking part in the study. Participant ages ranged from 18 to 31 with a mean age of 20.94 (SD = 1.91). All participants were categorised according to median-split scores (median = 9) on the eating disorder subscales of

the Eating Disorders Inventory (EDI-2; Garner, 1991). Participants with scores of 8 or below were categorised as the low EDI group ( $n = 44$ , mean = 3.89, SD = 2.80) and those with scores of 9 and above were classified as the high EDI group ( $n = 45$ , mean = 20.67, SD = 10.63). This study was approved by the university research ethics committee. Written informed consent was obtained from all participants prior to taking part and they were fully debriefed on completion of the study.

### 2.2. Emotion recognition from facial expressions (static images)

This task featured the six basic emotions (happiness, sadness, anger, surprise, disgust and fear) as facial expression stimuli (posed by 4 actors) taken from Ekman and Friesen's (1976) Pictures of Affect Series. Four examples of each emotion were presented on a computer screen for 400 ms, along with four expressions portraying no strong emotion (neutral affect) giving a total of 28 facial stimuli (presented in a randomised order). Participants were asked to indicate the emotion being displayed by making a forced choice between one of seven labelled emotions shown on the screen. Accuracy of emotion recognition was measured by calculating the number of emotions identified correctly by each participant. These stimuli have been used extensively in research and have excellent validity, as described in Young, Perrett, Calder, Sprengelmeyer, and Ekman (2002).

### 2.3. Emotion recognition from video clips (dynamic interactions)

Emotion recognition accuracy was assessed using the Emotion Evaluation section of The Awareness of Social Inference Test (TASIT; McDonald et al., 2002). This task consisted of 28 short (15–60 s) video clips of social interactions, each depicting one of the six primary emotions (happiness, sadness, anger, surprise, disgust and fear) or no strong emotion (neutral affect). Each emotion (including neutral affect) featured in four different video clips, presented in a fixed pseudo-random order. Participants were required to identify the emotion portrayed by making a forced choice between seven emotional descriptors. Emotion recognition accuracy was assessed by calculating the number of emotional displays identified correctly by each participant. TASIT is a valid measure of emotion recognition and social cognition in a variety of populations including adults with traumatic brain injury (e.g. McDonald et al., 2006) and adolescents (e.g. McDonald et al., 2015).

### 2.4. Measures

The presence and severity of eating disorder symptoms was assessed using the three eating disorder-related subscales of the Eating Disorder Inventory (EDI-2; Garner, 1991). This measure consists of 23 items assessing Drive for thinness (7 items), Bulimia (7 items) and Body dissatisfaction (9 items). The possible range of scores on the three subscales is 0–21 (drive for thinness & bulimia) and 0–27 (body dissatisfaction), with higher scores indicating greater levels of eating psychopathology. Overall eating psychopathology score was calculated by summing the totals from each subscale. This is a valid and reliable measure, with Cronbach's alpha scores in the range of 0.90–0.97 for the three different subscales (Garner, 2004; Wildes, Ringham, & Marcus, 2010). It has also been used successfully in earlier work to identify eating-related psychopathology in student populations (Laquatra & Clopton, 1994; Quinton & Wagner, 2005). In the present study, Cronbach's alpha values of 0.87, 0.61 and 0.90 were found for the Drive for thinness, Bulimia and Body dissatisfaction subscales respectively, which suggests a moderate to high level of reliability in the current sample.

Depression was measured using the Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996). This is a 21-item self-report questionnaire designed to assess the severity of depressive symptoms, with high scores reflecting increased symptoms of depression. Scores are assessed using the following guidelines: 0 to 13 (minimal depression), 14 to 19 (mild depression), 20 to 28 (moderate depression), and

Download English Version:

<https://daneshyari.com/en/article/7264872>

Download Persian Version:

<https://daneshyari.com/article/7264872>

[Daneshyari.com](https://daneshyari.com)