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Public Attitudes Towards People with ID

Public Attitudes Towards People with Intellectual Disabilities after Viewing  
Olympic/Paralympic Performance

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**Public Attitudes Towards People with Intellectual Disabilities after Viewing  
Olympic/Paralympic Performance**

**Abstract**

Despite some changes to the way that people with Intellectual Disabilities (ID) are viewed in society, negative attitudes prevail. One of the aspirations of the 2012 Paralympic games was to influence the public's attitudes towards people with disabilities. The aim of this study was to investigate whether stimuli depicting people with ID performing at Paralympic level of competition changes attitudes towards ID. A mixed randomised comparison design was employed comparing two groups; those who viewed Paralympic level ID sport footage and information and those who viewed Olympic footage and information. One hundred and fourteen students, mean age 25 years, were administered measures of implicit (sub-conscious) attitudes towards disability and explicit (belief-based) attitudes towards ID. Implicit attitudes significantly changed in a positive direction for both groups. The findings provide evidence that both Paralympic (ID) and Olympic media coverage may have at least a short term effect on attitudes towards people with disabilities.

Key words: intellectual disabilities, attitudes, media, Paralympics.

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One of the aspirations of the organisers of the Paralympic games was that London 2012 will “influence the attitudes and perceptions of people to change the way they think about disabled people” (Department for Culture, Media and Sport (DCMS), 2010, p.3) and “address prejudice and misunderstandings” (DCMS, 2012, p.7). Such negative attitudes are especially prevalent for people with intellectual disabilities (ID). The DCMS in their aspirations for London 2012 Paralympics suggested such changes would occur through media representations of people with disabilities (DCMS, 2012). Indeed, UK television coverage was significant, reaching an average of 3.3 million people or 17% of the viewing public, and peaking at 6.6 million (Inside the Games, 2012). Given London 2012 was the first time that people with ID had been included in the Games since Sidney 2000, this provided a major opportunity for potential attitude change towards this group. However the organisers of the London 2012 Games did not define the mechanism by which this would be achieved or present supporting evidence, over and above generic statements about the aspirations of media exposure.

Whilst there is some evidence that public attitudes towards people with ID are shifting in a positive direction (Siperstein, Norins, Corbin & Shriver, 2003), the need for a change is clearly apparent, as studies have consistently shown that people with ID remain highly stigmatised (Ali, Hassiotis, Strydom & King, 2012). Prejudicial beliefs hold that segregated sports teams, housing and schooling would be more suitable for people with ID (Siperstein et al., 2003).

Addressing negative attitudes is important as they have been found to be a barrier to inclusion in mainstream life for people with ID (Abbott & McConkey, 2006). It has been noted that inclusive social policy alone does not necessarily shift the general public’s attitudes, but other factors about both the individual with ID and the experiences of the

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member of public may be influential. A shift to a more positive attitude has been shown to herald greater acceptance of inclusion and hence may have a direct impact on the quality of life for a person with ID (Verdugo, Navas, Gomez & Schalock, 2012).

Increased engagement in social activities generally indicates a higher quality of life and increased well-being (Verdonschot, De Witte, Reichrath, Buntinx, & Curfs, 2009), which is highly relevant for people with ID as they tend to have a lower quality of life than other groups in society (Chowdhury & Benson, 2011). In addition, given that people with ID are a population vulnerable to low self-esteem and psychological disorders, contributed to by perceived negative attitudes (Campbell, 2009; Dagnan & Waring, 2004), increasing inclusion and reducing discrimination through promoting positive attitudes seems a potentially fruitful avenue for intervention.

Reviews of attitudes towards people with disabilities have attempted to explain the development and maintenance of attitudes through social, psychodynamic and learning theories (Daruwalla & Darcy, 2005). Research first based on the 'contact' hypothesis (Allport, 1954) suggests that greater exposure to the stigmatized group resulted in changes in attitudes (both positive and negative), with more structured contact being beneficial to increasing positive attitudes. Later research suggested negative attitudes develop if (a) something that is observed stands out sufficiently, (b) it is regarded as negative and (c) the context is vague or sparse (Tesser, 1990). Building on cognitive dissonance theory, it is suggested that such negative cognitions may be altered by the presentation of dissonant information (Draycott & Dabbs, 2011). Given this theoretical background, it seems plausible to suggest that intervening by providing more contact with the devalued group in a more positive, informed and normalized way, which may contradict previous assumptions, will result in a more positive attitude shift (Siperstein et al., 2007). More recent research has supported these ideas

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by demonstrating that attitudes can be influenced positively if more information about ID and more structured, positive contact with people with ID is given (Yazbeck, McVilly & Parmenter, 2004; McManus, Feyes, & Saucier, 2011).

Whilst concern has been expressed in the research literature about the contact hypothesis in terms of whether the specific attitude change generalises from the individual to the entire social group (Hamburger, 1994; Miller, 2002), other findings support this generalisation. Reviews by Pettigrew and Tropp (2006) and Pettigrew (2008) found supportive evidence demonstrating that increased contact with an out-group member does lead to an increase in positive attitude to both the specific member and out-group as a whole, and also that creating positive affect (i.e. positive feelings) contributes to increased generalisation.

The impact of different media vehicles for attitude change towards people with disabilities has been explored and evidence suggests that this is an important influence in maintaining and changing attitudes (Wilkinson & McGill, 2009). Television in particular, given its reach and accessibility, has been found to influence attitudes towards people with disabilities (Daruwalla & Darcy, 2005). This influence can be both positive, through depictions that challenge stereotypes (Coles & Scior, 2012), or negative through stigmatising images such as those designed to elicit pity (Aveyard, 1997; Wilkinson & McGill, 2009).

Some evidence suggests the effect of media on attitudes towards groups in society can be even more powerful than direct contact (Philo, 1997) and produces different reactions towards people with disabilities in particular (Farnall & Smith, 1999). Whilst, there is a lack of research to support this effect specifically regarding people with ID, a recent qualitative study found that people reported their knowledge and attitudes toward people with ID to be most influenced by media representations (Coles & Scior, 2012). This was despite people

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with ID not often being found to be represented in the media. In support of other forms of media impacting attitudes towards ID, a randomised control study found that positive attitudes towards people with ID increased as a result of being presented with an image of a person with Down Syndrome in a suit compared to a control condition of reading about a person with Down Syndrome (Varughese & Luty, 2010). The authors suggest that viewing such an image provoked ideas of competence through job role association and accessed a more personal account, shifting attitudes in a positive direction.

Watching and following sports through a variety of mediums is a popular activity and the London 2012 Paralympics represented one of the biggest global exposures to the general public of people with disabilities displaying their abilities, as opposed to their disabilities. As such, it presented a perfect opportunity to consider how such exposure might impact on attitude formation, especially for athletes with ID who are re-included in the Paralympics after a 12 year absence. Athletes with disabilities reflect a group that are vigorous, active, and competitive (Zoerink & Wilson, 1995). This in turn should challenge preconceived views of people with ID as needing to be 'looked after' or 'segregated'. Therefore, it might be hypothesised that presenting people with images of people with ID engaged in elite sports might produce a shift in attitudes in a positive direction. Whilst, as stated, this was an ambition of the organisers of the Paralympics, research directly supporting this hypothesis is missing.

Research conducted on the impact of sporting achievements on attitude change has mainly focussed on people with physical disabilities. For example, Krahe and Altwasser (2006) found a positive shift in attitudes towards disability when evaluating the impact of physically disabled Paralympians teaching children sports. Most research on attitude change towards people with ID through sport has investigated the effects of the Special Olympics,

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with mixed findings. Shriver (1997) and Özer, et al. (2012) found an increase in positive attitudes towards people with ID in non-disabled young people after exposure to the Special Olympics, whilst Roper (1990) and Freudenthal, Boyd, and Tivis (2010) failed to find a significant change in perceptions of ability in people with ID for adult volunteers and medical students involved in the Special Olympics. Such mixed findings may occur because it is not always clear if the dissonant, new perception of seeing the 'ability' not the 'disability' is present, which has been shown to result in attitude shift.

Defining and measuring such changing attitudes has presented challenges with numerous methods being employed. Bohner and Dickel (2011) helpfully summarise such definitions and suggest attitudes are multi-dimensional, including both a stability/constructionist (static or changeable) dimension and a conscious/unconscious dimension, hence requiring a variety of approaches to measurement. Antonak and Livneh (2000) provide an excellent review detailing the methods for measuring attitudes towards people with disabilities. They conclude that attitudes have been successfully measured using both explicit, belief-based measures (such as surveys and questionnaires) and implicit, sub-conscious methods (such as tests of association), but that implicit measurements in particular are well-suited for investigating attitudes. They also suggest that when using explicit measurements, care must be taken to use multidimensional scales and avoid measuring in a simplistic way. They recommend using both explicit and implicit measures which are psychometrically sound and multi-dimensional. Providing further support to taking a multi-dimensional approach, Bohner and Dickel (2011) explain that the explicit-implicit distinction has interesting implications with regard to predicting different types of behaviour which could in turn influence ways in which to attempt attitude change. Greenwald, Poehlman, Uhlmann and Banaji (2009) in a meta analysis concluded that implicit tests of attitudes measure implicit



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attitudes through response latencies and predict behaviour towards the attitude object more so than explicit attitude tests particularly for areas of social sensitivity (e.g., race). They suggest that this is because explicit attitude tests can be influenced by social desirability which does not have the same influence on behavioural responses. Furthermore, in a review of 18 studies using implicit attitude measurement in relation to disability Wilson and Scior (2013) specifically recommend this methodology due to its ability to address the prevailing negative views towards people with ID and undermine the effects of social desirability on responding.

A further challenge of work in this area is to demonstrate that interventions, which change attitudes, act as mediators to behaviour change. The strongest evidence for this is within research on changing the attitudes of staff towards people with ID displaying challenging behaviour, where interventions such as training which has changed attributions of causality, has been shown to impact on treatment strategies (Allen, 1999; Wills, Shephard & Baker, 2013). Within the more mainstream literature there is increasing evidence demonstrating interventions which improve attitudes, also improve behavioural intentions (e.g. Walker & Scior, 2013), which in turn, under the right circumstances, change behaviour (Webb & Sheeran, 2006).

In summary, despite some methodological challenges, previous research suggests that exposure via the medium of television with content showing people with ID in a positive, credible and informed way, which challenge stereotypes, may influence public attitudes in a positive direction. Media exposure of this type occurs through events such as the Paralympics and one of the London 2012 legacy promises was that the event will influence the attitudes of the public towards people with disabilities. However, such a mechanism is yet to be tested for people with ID. The aim of this research was to investigate whether media representations showing people with ID competing at an elite level of sports produces the attitude shift

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aspired to in the London 2012 Paralympic promise (DCMS, 2010; 2012).

### **Method**

#### **Participants and Sample Size**

A convenience sample of students in the Education department and in the Sports Science department at a UK University ( $N = 194$ ) were invited to take part in the study. All the students were 18-years old or above ( $Mean = 24.81$  years,  $Range = 19 - 53$  years,  $SD = 8.62$ ) and the majority were white British. Demographic data is reported in Table 1.

[Table 1]

Students from these departments were recruited because they were likely to have an interest in sports and/or disabilities due to the content of their studies and hence likely to be attracted to media representation of these topics. These courses also tended to have older and a wider age range than other academic programmes.

#### **Design**

Participants were randomly assigned using a block randomisation strategy into two groups; an experimental group and a comparison group to allow for equitable group sizes (Roberts & Torgerson, 1998). The experimental group was provided with three A4 sheets of information about the successes of people with ID performing at a Paralympic level of sport, and watched a 20 minute video of television quality footage of people with ID performing at a Paralympic level event. The comparison group were provided with equitable information about the success of Olympians and watched equitable footage of the Olympic Games. The stimulus material was matched in content, gender, length, quality and type of information given. Each participant completed only one of the conditions.

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A two-group pretest-posttest design was used to assess change in attitudes (implicit and explicit in line with previous research) after the intervention using established measures of attitude.

### **Stimulus Material and Tasks.**

The two interventions (Paralympic and Olympic), both consisted of (a) the presentation of 20 minutes of video footage as a group on a large screen and (b) written information. In the experimental group (Paralympic intervention), the video footage consisted of people with ID competing in swimming and athletics (track and field) at major international competitions in which success was highlighted. In the comparison group (Olympic intervention), the video footage consisted of Olympians competing in swimming and athletics at the Athens Olympic Games, matched for the type of footage in the Paralympic intervention. Both sets of footage were obtained from organisations that had access to high quality television broadcasting footage.

The written information, in the form of A4 sheets with text and pictures, was presented prior to the footage. The Paralympic intervention included information about the successes of athletes with ID at a Paralympic level of sport and the Olympic intervention included information about the successes of Olympians. This was added to reflect the type of media representation likely to be present during the Paralympic and Olympic Games (newspaper and TV footage), and to make it obvious what people were going to be watching.

### **Measures**

**Implicit attitude measurement of attitudes towards disability.** The terms implicit and explicit are used to denote automatic attitudes (implicit) from belief-based attitudes (explicit) (Pruett & Chan, 2006). This distinction is based on the belief that attitudes are formed through one of two systems of information processing, associative and propositional.

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Associative is fast, inflexible and requires little cognitive capacity, and hence may be measured by reaction time. Propositional involves applying logic to transform declarative knowledge, and hence is flexible, slow, uses a lot of cognitive capacity, and may be more prone to response bias. The implicit attitude measure used was the 'Disability Attitudes Implicit Association Test' (DA-IAT) (Pruett & Chan, 2006) which was adapted to be a computer-based task from a paper based task. The DA-IAT measures implicit attitudes towards disability in general, by measuring how quickly a person can classify words denoting positive and negative concepts (e.g. happy and sad) and pictures denoting disabled persons or abled persons into superordinate categories. Latency times in milli- seconds from time of presentation to time of classification measures the implicit attitude held about a particular pairing. The faster the response time the stronger the association is between what is presented and the category assigned and thus the stronger the implicit attitude held (Greenwald, Poehlman, Uhlmann & Banaji, 2009).

With the computerized version of the DA-IAT, instructions are given on screen, a unique participant number is entered and then a practice task appears. There are seven sets of tasks in total, which progress in difficulty and type of measurement. The first tasks require the person to classify words into the superordinate categories of good and bad (displayed in the right and left hand corners of the screen) by pressing the response key that relates to that category. The next task requires the person to classify pictures depicting persons with and without disabilities into the superordinate categories of persons with and without disabilities. These tasks are designed to allow participants to become familiar with the categories and stimuli.

The tasks are then combined and people are required to classify either words or symbols previously presented before into 'disabled persons or good' and 'abled persons or bad'

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categories. These categories are then swapped to 'disabled persons or bad' and 'abled persons or good'. The 'disabled persons or good' and 'abled persons or bad' block of associations measure an incongruent attitude and the other a congruent attitude (assuming negative attitudes towards disabled persons). The words and pictures used have been validated in other studies to denote these concepts (Pruett & Chan, 2006).

Randomisation of the seven blocks of trials was used to avoid ordering effects. The scores obtained denote differences in latencies between the blocks of abled-bad and abled-good classifications and disabled-bad and disabled-good classifications to enable a score of implicit attitude (e.g. if the score is 0 then the attitudes are neutral, a negative score denotes a preference for abled persons and a positive score denotes a preference for disabled persons).

This measure has been found to have a satisfactory test-retest correlation ( $r = .78$ ) and has been used by researchers investigating attitudes towards people with disabilities (Pruett & Chan, 2006). The test was validated on a similar student group to those used in this study, although in the USA. The words and symbols used were checked by comparison with commonly used words and symbols in the UK for cultural specificity and were found to be congruent. These types of measures have also been used in measuring attitudes to a number of stereotyped groups and are thought to be a reliable way to measure implicit attitudes (Bohner & Dickel, 2011).

**Explicit attitudes towards people with ID measure.** The Community Living Attitude Scale- Mental Retardation (CLAS-MR; Henry, Keys, Jopp & Balcazar, 1996; Henry, Keys & Jopp, 1999) was chosen to measure explicit attitudes towards people with ID as it includes four sub-scales, thought to measure multiple dimensions of attitudes towards people with ID. The CLAS-MR sub-scales are a) attitudes about the extent to which persons with ID should be empowered to make choices about their lives b) attitudes regarding the exclusion of

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people with ID from community life c) attitudes regarding the need to shelter people with ID from harm in communities and d) beliefs regarding the extent to which people with ID share a common humanity with other people in society. A typical item is 'People with intellectual disabilities do not want to work'. A higher score on sub-scale a) and d) indicates a more positive attitude and a lower score on sub-scale b) and c) indicates a more positive attitude. Scores on sub-scales b) and c) were reversed in line with previous research (Yazbeck et al., 2004) to gain an overall composite score, with higher scores denoting more positive attitudes. The 40 items are rated on a 6-point Likert Scale. To modify the CLAS-MR for a UK sample, US terms 'mental retardation' and 'dollars' were replaced respectively with 'learning disability', the synonymous UK term for both mental retardation and intellectual disabilities, and 'money'.

The CLAS-MR has been used in other studies to measure attitudes (e.g. Henry, Keys, Balcazar & Jopp, 1996; Schwartz & Armony-Sivan 2006; Yazbeck et al., 2004) with similar student populations and is regarded as a robust measure of attitudes towards people with ID, showing good construct validity and stability of factors (Henry et al., 1996). The psychometric properties, test-retest reliabilities are reported as being over,  $r = .7$ , Cronbach's alpha are reported to range between .75 and .86, indicating that it is a reliable measure for the purpose of this study (Henry et al., 1999).

**Demographic questionnaire.** A simple questionnaire was designed to collect basic demographic data, including level of education, disability, previous contact with people with ID, and employment status.

## Procedure

The study received University ethical approval and the treatment of participants was in accordance with the ethical standards of the British Psychological Society, (BPS, 2009; 2011),

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including following guidance with regard to deception (not being aware at the beginning that the study was measuring a change in attitudes) and the provision of a de-briefing sheet. Both groups were given the information sheet and a consent form, instructed to read them, and invited to ask questions of the researchers. Participants were told that the research involved assessing their views on a number of topics and that they would be fully de-briefed at the end. If consent for participation was given they were administered the two measures and the demographic questionnaire (T1). One to three weeks later (T2) the experimental group was instructed verbally that they would be reading about athletes with ID, some of whom would be performing in the Paralympics 2012 and then watched 20 minutes of footage about some of these athletes. These instructions included a definition of the condition, other synonymous terms and how it differs from other conditions. They were told that all the athletes shown had ID. After they had read the information, they were then shown the footage, on a large screen in groups of 20 people. The comparison group was given the same procedure with the Olympic stimulus. Immediately after presentation of the footage both groups were administered the two measures followed by a de-briefing and invited to ask any questions. The sequence of measures at T1 were; DA-IAT, demographic questionnaire, CLAS-MR and at T2 were; DA-IAT followed by the CLAS-MR. The demographic questionnaire was delivered after the DA-IAT to avoid priming of the implicit attitude measure.

**Analysis.** Descriptive and exploratory data analysis was carried out to establish similarity of groups and the most appropriate statistical analyses. ANOVA and mixed MANOVA were used to assess the group by time interactions. The specific hypotheses were that explicit and implicit attitudes would increase in a positive direction after the participants watched elite ID Paralympic level footage and information (experimental group), and that there would be no difference in explicit and implicit attitude scores over time for the

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comparison Olympic group.

## Results

### Participant's Demographics

The total number of participants in this study was  $N = 114$ , this was due to missing data scores through attrition between T1 and T2 (experimental group,  $n = 62$ , comparison,  $n = 52$ ). Groups were effectively matched on gender, disability, level of education, employment status and prior contact with people with ID (Table 1). Statistical comparison of the groups found no statistically significant differences for these demographic variables.

Comparison of the outcomes measures (DA-IAT and CLAS-MR scales) revealed no significant differences between the groups at T1, suggesting the groups were comparable on these variables. Table 2 shows the mean and standard deviations of both explicit and implicit attitude measures for both groups across the two times.

[Insert Table 2]

### Main Analysis

**Changes in attitude following stimuli.** A mixed MANOVA was performed on the explicit attitude (CLAS-MR) measure sub-scales and total score, because tests revealed significant correlations between the sub-scales and total scores and there are strong theoretical grounds to suggest these scales are related. Using Wilks's lambda, there was no significant main effect of time on explicit attitudes,  $F(1, 112) = 1.571$ ,  $p = ns$ . There was no significant main effect of group on explicit attitudes,  $F(1, 112) = .00$ ,  $p = ns$ .

Separate ANOVA tests were also performed on the data due to concern about type II errors. When using separate tests there was a significant main effect of time on the CLAS-MR



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empowerment sub scale scores,  $F(1, 112) = 5.77, p < .05, r = .22$ . However, after correcting for Type I errors, with  $p$  set at .01, this was just above the accepted significance level, observed power was .66. Scores at T2 ( $M = 4.35, SD = .66$ ) were higher than at T1 ( $M = 4.25, SD = .57$ ), indicating that CLAS-MR empowerment scores increased from T1 to T2. There was no significant effect of group, indicating that scores from the comparison group and experimental group were in general the same,  $F(1, 112) = .10, p = ns$ . Observed power was .06. There was no significant interaction effect between time and group  $F(1, 112) = .011, p = ns$ . Observed power was .05. This indicates that the scores from T1-T2 did not differ by group. All other sub-scales did not reveal significant results.

Separate tests were also conducted on DA-IAT scores, because there is less theoretical evidence for a relationship between implicit and explicit attitude scores. There was a significant main effect of time on DA-IAT scores,  $F(1, 110) = 14.29, p < .05$ . DA-IAT scores were closer to zero at T2 ( $M = -.36, SD = .27$ ) than at T1 ( $M = -.49, SD = .34$ ), indicating a more positive attitude towards disabilities after stimuli. There was no significant effect of group, indicating that the comparison group and experimental group were comparable  $F(1, 110) = .295, p = ns$ . Observed power was .08. There was not a significant interaction between group and time,  $F(1, 100) = 2.701, p = ns$ . Observed power was .37.

## Discussion

Within this sample Paralympic (ID) and Olympic media coverage does seem to change attitudes towards people with ID, with implicit attitudes towards disability being significantly more positive following these stimuli, at least in the short-term. However, it did not seem to matter which footage or information the sample were exposed to which was unexpected as it was hypothesised that the Paralympic material would have been more effective. This suggests

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that both types of stimulus content shared similar effective elements and were especially effective for implicit attitude change. One such element may be the creation of a 'feel good' factor, such that affect is uplifted, which is known from previous research as having a generic, beneficial impact on attitudes (Pettigrew & Tropp, 2006; Clore & Schnall, 2005). Drawing on the 'Schema-Triggered Affect Model' (Kinnally, Tuzunkan, Raney, Fitzgerald, Smith, 2013), the priming of positive cognitive schemas about achievement and potential might have provoked a more optimistic and therefore, positive attitude. This accounts for implicit attitude change through associative processes where automatic evaluations are influenced by pattern activation (Bohner & Dickel, 2011), but not for the lack of explicit attitude change. Especially so with the Paralympic group where the task of processing visual material about Paralympic athletes could be argued as being as potentially challenging to propositional beliefs and hence more likely to change explicit attitudes. Bohner and Dickel (2011) give an account for such a de-synchrony with a propositional task where, implicit attitudes are changed, but not explicit using a propositional reasoning task through the implication of an impression motive where such explicit attitudes are seen as less desirable and hence suppressed.

Another explanation may be a ceiling effect or lack of sensitivity of the CLAS-MR, with this sample such that the sample scored positively making change difficult to detect. However, when the sub-scale means from this sample are compared to a white, British, older (mean age 37) sample of the general public the results are comparable and other studies using the measure have demonstrated good sensitivity (Scior, Kan, McLoughlin & Sheriden, 2010). It may be the case that the task, in relation to this measure, was just not effective enough in terms of propositional challenge to evoke change in explicit attitude, but through the affective priming mechanism was effective in terms of implicit attitude change. This is consistent with the dual processing accounts described by Bohner and Dickel (2011).

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Such findings suggest that if attitudes towards other disadvantaged groups had been measured a similar improvement may have been found, and this effect may not just be limited to disability. Equally it is not possible to know whether footage depicting other types of achievement would have shifted attitudes. It may be that this finding is not specific to attitudes towards people with disabilities or to competitive sports, but it is the priming of positive affect which is the active ingredient.

There are some limitations inherent in attitude research generally and specifically with the design of this study. Firstly this study used an opportunistic sample of university students. Although care was taken to match this sample to the general population for age and gender, this sample may not be adequately representative of the general public. It has been noted in previous research that level of education can impact upon attitudes to individuals with intellectual disabilities (Ouellett-Kuntz, Burge, Brown & Arsenault, 2010). Therefore the nature of the sample provides a potential limitation as it involved students studying at a degree level, who may hold more favourable attitudes than those educated below this level. Furthermore, there was a marked drop-out rate from T1 to T2 hence, factors that influenced drop-out may have biased the sample in some way for example, perhaps those who were more likely to display with socially desirable responses took part at T2, limiting the generalisability of the results. Secondly, the implicit attitude measure used (DA-IAT) is still early in its development and is not specific to people with ID. However, the Implicit Association Test (IAT) is a well-established methodology and underpins much research of this nature and inclusion of both type of attitude measurement has been recommended (Antonak & Livneh, 2000).

Although this study was designed to represent footage and information as closely as possible to the content likely to be broadcast through mainstream media during the

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Paralympics 2012, repeated exposure (likely during the Paralympics) was not included. The footage was only 20 minutes long. It is likely that with greater exposure, a greater effect of attitude change could occur, for example in the Beijing Paralympic games in 2008 over 1800 hours of footage was broadcast (IPC, 2012). Whilst the data was collected the autumn before London 2012, there was growing Paralympic media exposure, which may have already sensitised viewers somewhat, although very little of this explicitly mentioned athletes with ID. However, the findings do indicate promise as change did occur after a quite minimal intervention. Also it is not clear from this study how quickly this effect might fade as no follow-up data was collected.

Despite some limitations to this study, it seems that media coverage of the Paralympic and Olympic games has the potential to change attitudes towards people with ID and disabilities in general in a positive direction. This is exciting, given the wide ranging audiences of the Paralympic games. It could be that, with the increased growth, reach and status being given to Paralympic coverage, the potential for public attitude shift may be greater than has previously been possible.

We know that people with ID experience negative attitudes as a barrier to social inclusion (Verdonschot, et al., 2009) and despite increased social activities being an indicator of a higher quality of life, people with ID generally engage in a lower range of activities (Baker, 2001) than people without disabilities. If attitudes towards people with ID can improve on a mass scale then perhaps more inclusion and greater quality of life and well-being is possible. This study demonstrated some shift towards more positive attitudes after the most minimal intervention, at least in the short-term. Given the massive media coverage of London 2012 over an extended period of time, this study gives some limited support to that the legacy promise of changing attitudes may be delivered at some level.

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Future research using a similar design to this might investigate the notion that it is the 'feel good' factor of the stimulus material which promotes attitude change, regardless of either the content of the material presented or the nature of the devalued group. Research designs would also benefit from more longitudinal follow-up to examine if the change in attitude fades or is sustained, and indeed what minimal interventions if possible might sustain attitude change. More longitudinal studies should also examine this in relation potential differences between implicit and explicit attitude change as one may be more long-lasting than the other.

Given the findings in this study, the impact of media (and specifically sport) on attitude change towards people with ID seems an important and exciting avenue for future research. In particular the role of affect in attitudes towards people with ID should be researched further. In conclusion, the findings provide some evidence that media coverage of elite sport can change implicit attitudes towards people with disabilities, at least in the short term and as measured by the DA-IAT. Interestingly, the findings suggest that the intervention does not necessarily need to focus on the disability group itself. How such findings relate to change in behaviours in everyday life is yet to be proven, but they suggest some tentative support to one of the London 2012 legacy promises. Given that people with ID continue to have negative attitudes held towards them which have an impact on social inclusion as well as physical and mental well-being, ways to change attitudes should continue to gain research attention. Events such as the Olympics and Paralympics provide rich opportunities to research the impact of how public attitudes may be changed by staged, global events, potentially providing a mass incidentally occurring intervention.

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Table 1

### *Participant Demographic Information*

	Paralympic stimuli (Experimental)	Olympic stimuli (Comparison)
<b>Gender</b>		
Male	20 (31.7%)	21 (40.4%)
Female	42 (66.7%)	31 (59.6%)
<b>Disability</b>		
Yes	1 (1.6%)	1 (1.9%)
No	61 (96.8%)	51 (98.1%)
<b>Level of education</b>		
School	0	0
College	0	0
University	48 (77.4%)	44 (84.6%)
Post-graduate	9 (14.5%)	8 (15.4%)
<b>Employment status</b>		
Full-time	5 (8.1%)	1 (1.9%)
Part-time	36 (58.1%)	38 (73.1%)
Unemployed	14 (22.6%)	6 (11.5%)
Home-maker	5 (8.1%)	7 (13.5%)

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### Level of contact with People with ID

Daily	13 (21%)	7 (13.5%)
Weekly	10 (16.1%)	14 (26.9%)
At least once a month	8 (12.9%)	11 (21.2%)
Within 3 months	10 (16.1%)	4 (7.7%)
Less often	21 (33.9%)	16 (30.8%)

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## Public Attitudes Towards People with ID

Table 2

*Mean and Standard Deviations of the Olympic and Paralympic Stimuli Groups across Time 1 and Time 2 on Explicit and Implicit Attitude Measures*

	<i>Explicit attitude scores (CLAS-MR)</i>		<i>Implicit attitude scores (DA-AIT)</i>	
	<i>Time 1</i>	<i>Time 2</i>	<i>Time 1</i>	<i>Time 2</i>
	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>
	<i>(SD)</i>	<i>(SD)</i>	<i>(SD)</i>	<i>(SD)</i>
<b>Group</b>				
Olympic stimuli	189.23 (17.85)	190.25 (22.08)	-0.45 (0.31)	-0.38 (0.29)
Paralympic stimuli	188.65 (20.97)	190.19 (20.65)	-0.52 (0.36)	-0.34 (0.27)