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PUBLIC ATTITUDES TOWARDS INTELLECTUAL DISABILITIES
AFTER WATCHING OLYMPIC/PARALYMPIC PERFORMANCE.

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SUMMARY OF THE PORTFOLIO

Section A is a review of the current literature on attitudes towards people with intellectual disabilities (ID). It begins by describing the current status of attitudes and provides the impact of these attitudes on people with ID. It then reviews and critiques current social psychology literature on attitude structure, formation and change whilst linking these theories to people with ID. Finally, it describes and critiques the experimental methods by which researchers have attempted to change attitudes towards people with ID. This section ends with research implications for this area.

Section B is a description of a quantitative randomised mixed design study comparing two groups; people who read information about, and watched footage of Paralympic level ID sport and people who read information about, and watched footage of Olympic level sport on explicit and implicit attitude measurements. The results are discussed in the context of existing theories and previous research findings. Clinical and research implications are considered.

Section C is a critical appraisal of the research process. It considers; research skills gained, what would be changed if the study was to be completed again, clinical practice implications, and further research possibilities in this area.

TABLE OF CONTENTS

SECTION A: CHANGING ATTITUDES TOWARDS PEOPLE WITH INTELLECTUAL DISABILITIES: A LITERATURE REVIEW	1
1 ABSTRACT.....	2
2 INTRODUCTION	3
2.1 Definition of terms.....	3
3 REVIEW	4
3.1 Past and present attitudes towards people with ID.....	4
3.1.1 Summary.....	6
3.2 The effect of negative attitudes	6
3.3 Theories of structure, formation, and attitude change.....	7
3.3.1 Structure of attitudes	7
3.3.2 Formation of attitudes	8
3.3.2.1 Learning through cognitive models.....	8
3.3.2.2 Group membership and stigmatisation.....	9
3.3.3 Mechanisms for attitude change	11
3.3.3.1 Cognitive theories	11
3.3.3.2 Group Membership	12
3.3.4 Summary.....	13
3.4 Predictors of positive attitudes towards people with ID.....	14
3.5 Measurement issues	14
3.6 Changing attitudes towards people with ID	15
3.6.1 Inter group contact	16
3.6.2 Positive information.....	17
3.6.3 Combined contact and information.....	18
3.6.4 Summary.....	19
3.7 Changing attitudes towards stigmatised groups through the media.....	20
3.8 Summary, research gaps and implications for future research.....	22
4. REFERENCES.....	24

SECTION B: EMPIRICAL PAPER	1
ABSTRACT	1
INTRODUCTION	2
Attitudes towards people with Intellectual Disabilities.....	2
The effect of negative attitudes.....	3
Formation of attitudes and how they are changed.....	3
Factors of the evaluator that predict attitudes.....	5
Media and attitude change	5
Sport, media and disabilities	6
Methodological issues	7
Summary	8
METHOD	8
Participants and sample size	8
Materials and Procedure	9
Design	9
Materials	10
Measures	11
Procedure	14
Analysis.....	14
RESULTS	15
Assumptions of the analysis.....	15
Participants' demographics.....	15
Main Analysis	17
Changes in attitude following stimuli	17
Correlations and predictions of attitudes.	18
Regression analysis.....	20
Assumptions of the regression analysis.	20
DISCUSSION	22
Aims and findings.....	22

Changing attitudes.	22
Factors that correlate with attitude scores.	25
Relationship between implicit and explicit attitude measures.	25
Limitations.....	26
Clinical and theoretical implications.....	27
Research Implications	27
Conclusion	28
REFERENCES	29
SECTION C: CRITICAL APPRAISAL.....	1
1 CRITIQUE	2
1.1 What research skills have you learned and what research abilities have you developed from undertaking this project and what do you think you need to learn further?	2
1.2 If you were able to do this project again, what would you do differently and why?	4
1.3 <u>Clinically</u>, as a consequence of doing this study, would you do anything differently and why?	5
1.4 If you were to undertake further research in this area what would that research project seek to answer and how would you go about doing it?	7
SECTION D: APPENDICES	1

LIST OF TABLES

TABLE 1: *Participants' demographics*

TABLE 2: *Summary of inter-correlations using Pearson's bivariate correlation coefficient (r_s) for scores on the main variables as a function of time*

TABLE 3: *Standard Multiple Regression Analysis Predicting T1 CLAS-MR Scores From Daily Contact with People with ID and Gender*

TABLE 4: *Predictors of CLAS-MR total score at T2*

TABLE 5: *Predictors of DA-IAT score at T2*

LIST OF APPENDICES

- A. LITERATURE SEARCH**
- B. INFORMATION SHEET ABOUT THE PARALYMPICS**
- C. INFORMATION SHEET ABOUT THE OLYMPICS**
- D. CORRESPONDANCE WITH INTERNATIONAL PARALYMPIC COMMITTEE**
- E. DA-IAT SCREEN SHOT**
- F. COMMUNITY LIVING ATTITUDES SCALE-MENTAL RETARDATION**
- G. BALANCED INVENTORY OF DESIRABLE RESPONDING**
- H. DEMOGRAPHIC QUESTIONNAIRE**
- I. PARTICIPANT INFORMATION SHEET**
- J. CONSENT FORM**
- K. DE-BRIEF SHEET**
- L. ETHICS APPROVAL LETTER**
- M. NORMALITY ASSUMPTIONS**
- N. LEVENES STATISTICS**
- O. CHI-SQUARE ANALYSIS**
- P. PARAMETRIC TESTS COMPARING GROUPS AT T1**
- Q. NORMALITY PLOTS FOR STANDARDISED RESIDUALS**
- R. LETTER TO ETHICS COMMITTEE**
- S. SUMMARY REPORT TO ETHICS COMMITTEE AND PARTICIPANTS**
- T. AUTHOR GUIDELINES FOR JOURNAL SUBMISSION**

**Section A: Changing attitudes towards people with
intellectual disabilities: A literature review**

Joanna Kate Ferrara

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1 ABSTRACT

The aim of this review is to consider the nature of attitudes towards people with intellectual disabilities (ID). A review of the literature revealed predominately negative attitudes towards people with ID. Negative attitudes have been found to impact on the mental and physical health of people with ID, as well as inclusion and access to services. How negative attitudes are formed and can be influenced will be reviewed, drawing on social psychological literature. The experimental literature investigating ways to change negative attitudes towards people with ID is also reviewed and critiqued. An argument is made for more robust research and interventions investigating how to alter negative attitudes towards people with ID.

2 INTRODUCTION

This review presents and critiques literature relevant to the area of changing attitudes towards people with intellectual disabilities (ID). Firstly, it will define the terms used, then review past and prevailing attitudes towards people with ID, the impact of these attitudes, theories of attitude formation and change and how these have been applied to stigmatised groups, methods of measuring this change, and correlational and experimental research investigating the effectiveness of interventions designed to change attitudes towards people with ID. The need for further research in this field will be argued.

2.1 Definition of terms

The term ‘Intellectual Disabilities’¹ (ID) has been born out of an attempt to construct a term that reflects more positive connotations of disability (Schalock et al., 2007). The World Health Organisation (1996) define it as:

“...a significantly reduced ability to understand new or complex information and to learn and apply new skills (impaired intelligence). This results in a reduced ability to cope independently (impaired social functioning), and begins before adulthood, with a lasting effect on development.” (p.2)

1

This term encompasses other such terms as 'mental retardation' and 'learning disabilities' however the term intellectual disabilities is used internationally and therefore has been adopted for this review.

Despite some debate as to the concept of attitudes (Bohner & Dickel, 2011), current definitions include:

“... a Psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour” p.1 (Eagly & Chaiken, 1993).

“...a summary evaluation of a psychological object captured in such attribute dimensions as good-bad, harmful- beneficial, pleasant-unpleasant, and likeable-dislikable” p.1 (Ajzen, 2001).

3 REVIEW

3.1 Past and present attitudes towards people with ID

Attitudes towards people with ID have changed over time in response to cultural, economic and social shifts (Digby & Wright, 1996). As such, there is a wealth of literature spanning decades investigating attitudes towards people with disabilities (Goreczny, Bender, Caruso, & Feinstein, 2011).

Digby and Wright (1996) argue that labelling of difference resulted in early negative attitudes. Attitudes of deficit were most prominent (Slevin & Sines, 1996) and people were segregated if seen as incapable of work. Segregation further promoted attitudes of difference and deficit and with no contact with the public, fear and hostility developed (Stephenson, 1967). In later centuries, ID was seen as a result of biological factors, people with ID were associated with criminality and promiscuity, and attitudes of fear, disgust and disease continued segregation (Altman, 1981; Gottlieb & Corman, 1975; Roeher, 1979; Park & Radford, 1998; Slevin & Sines, 1996).

With increased knowledge of causes and treatment for ID, predominant views were of incapability (Ashman, 1982). Segregation was latterly viewed as a problem, exaggerating difference and increasing disability through institutionalisation (Polloway, Smith, Patton, & Smith, 1996) and people moved from institutional care into the community.

After deinstitutionalisation, and with increased visibility in the community, people with ID were no longer seen as people to be feared (Rees, Spreen, & Harnadek, 1991), hated or distrusted, instead they elicited pity (Dodgington, Jones, & Miller, 1994; Sinson & Stainton, 1990), apathy and ambivalence (Soder, 1990). Coupled with anti-discrimination laws and human rights movements overt attitudes towards people with ID shifted in a more positive direction (Wright, 2007).

In early 2000, a multinational study of attitudes towards people with ID suggested that overall in the 21st Century the public hold low expectations for their role in society (Siperstein, Norins, Corbin & Shriver, 2003). More recent multinational studies found similar attitudes (Halperin & Merrick, 2006) including seeing people with ID as separate from the self (Siperstein, Parker, Norins, & Widaman, 2011; Ouellette-Kuntz, Burge, Brown, & Arsenault, 2010; Yazbeck, McVilly, & Parmenter, 2004). An excellent review on attitude research from 1990- 2011 (Scior, 2011) and a report by the Office for Disability issues (2011) found that overall the public express attitudes of pro-inclusion, however they also hold contradictory attitudes about segregated living and working environments and wish to avoid social interactions with people with ID.

Modern attitudes suggest that as the public are confronted with social exchanges now made

more possible through integration, attitudes of ambivalence and distancing come to the forefront (Dijker, van Alphen, Bos, van den Borne, & Curfs, 2011), fuelled by anxiety of how to manage social interactions (Vilchinsky, Findler, & Werner, 2010). Although attitudes overall are more positive in the 21st Century, people continue to fear engaging in social or personal relationships with people with ID (Goreczny et al., 2011). With the increasing need to act socially desirable and report positive attitudes, negative attitudes are more covert (Akrami, Ekehammar, Claesson, & Sonnander, 2006; Spencer, Peach, Yoshida, & Zanna, 2010). However there is a lack of longitudinal studies tracking changing attitudes over time (Scior, 2011).

3.1.1 Summary

Overall attitudes towards people with ID in the UK have improved (Scior, Kan, McLoughlin, & Sheridan, 2010). The increasing awareness of human rights and integration, enabling greater visibility of people with ID may have aided in this shift of attitudes (Kersh, 2011; Wright, 2007).

3.2 The effect of negative attitudes

Negative attitudes towards other stigmatised groups in society such as mental illness and race have been found to have negative effects on physical health, mental health, income and access to services (Markowitz, 1998). These effects have also been found in people with ID, with negative attitudes contributing to poorer mental health (Cooper, Smiley, Morrison, Williamson, & Allan, 2007; Dagnan & Waring, 2004), poorer access to services (Allan et al., 2005) and less community participation and integration (Abbott & McConkey, 2006; Myers, Ager, Kerr, & Myles, 1998; Verdonshot, De Witte, Reichrath, Buntinx, & Curfs, 2009) despite social policy designed to rectify this. A shift in attitudes has been argued to enable

social policy to be implemented and increase inclusion (Jukes, 2004). Although a recent cross-cultural study found evidence for an increase in more positive attitudes with the increase in social policy favouring inclusion, there is not much data on the direct relationship between these factors (Scior et al., 2010).

3.3 Theories of structure, formation, and attitude change.

Social Psychology has provided a number of ways for understanding attitudes, which will now be reviewed.

3.3.1 Structure of attitudes

Early theories suggested that attitudes were a unidimensional, general evaluation of an object (e.g. Petty & Cacioppo, 1981). However, later theories suggest that other factors are involved in attitude formation and change. These include cognitions, feelings and action tendencies based on the premise that attitudes towards people are based on an interaction with one's environment, not purely on information processing (Ajzen & Fishbein, 1977; Eagly & Chaiken, 1993; Triandis, 1971). Currently, there is a multidimensional understanding of the structure of attitudes (Albarracin, Johnson & Zanna, 2005; Kersh, 2011).

Recently this proposition has been critiqued. Although the multidimensional theories reported problems with theories that suggested global attitudes (Ajzen & Fishbein, 1977; Eagly & Chaiken, 1993) recently attitude consistency and stability has been questioned again. In particular, the duality of attitudes has gained attention, whereby people hold multiple and often conflicting attitudes towards the same object (Bohner & Dickel, 2011).

Cognitive representation theories e.g. Lord & Leeper (1999) and Overwalle & Siebler (2005) have attempted to understand and predict when consistency and inconsistency between

attitudes might occur. They suggest that two cognitive processes will combine to result in an overall evaluation of the object from global representations in memory as well as from the context (Ottati, 1997). The assumptions activated at two time points could be different. For example, when applied to people with ID, not only stereotypical representations of this category are activated but so too are other characteristics which influence one's attitude responses. This then produces either an inconsistent or consistent response with one's overall global attitude.

Recent theories lend support to this idea, stating that attitudes are made up of different evaluations of the same object activated at different times, these include implicit (covert or automatic attitudes) and explicit attitudes (overt or conscious attitudes; Wilson, Lindsey, & Schooler, 2000). Dual-process models have been criticised for ignoring findings that differing implicit and explicit attitudes can exist together at one time point, and change in one does not always result in changes in another (Gawronski & Bodenhausen, 2006). There is current debate as to whether implicit and explicit attitudes are related and how (Bohner & Dickel, 2011).

3.3.2 Formation of attitudes

3.3.2.1 Learning through cognitive models

Learning theories suggest that people learn to respond favourably or unfavourably, making an evaluation of an object depending on learned experience (Fishbein & Ajzen, 1975). It is thought that this learning leads to associated networks within cognitive processes which form an attitude towards an object (Tesser & Shaffer, 1990). Learning can occur through direct exposure, indirect exposure (media outlets), direct instruction (information about the attitude object) and conditioning models of social learning (Kersh, 2011). Such theories when applied

to attitudes towards people with ID, suggesting that one learns to associate people with ID with various negative cognitions, affects and behaviours which form negative attitudes.

Yuker (1988) discussed how attitudes towards people with disabilities can be formed through the fundamental negative bias (FNB). This theory stresses that if an object 1) stands out sufficiently 2) it is regarded as negative 3) the context is vague/sparse then a negative attitude is likely to be formed. Recently a review suggested that negative attitudes are linked to misconceptions about the capabilities of people with ID and lack of information (Scior, 2011), lending support to this theory.

3.3.2.2 Group membership and stigmatisation

Early theories proposed that negative attitudes were formed through group membership and in-group, out-group preferences (Allport, 1954). Social identity theory and social comparison theory (Buunk & Gibbons, 2007) were proposed to account for in-group bias (Tajfel & Turner, 1979), suggesting that people have a tendency to value the in-group over the out-group in order to protect their sense of social identity. Recently, this effect has been shown to be more complex, with often only high status members displaying this preference (Guimond, Dif, & Aupy, 2002). However, group threat is currently thought to influence negative attitudes towards an out-group (Riek, Mania, & Gaertner, 2006),

Applied to people with ID, awareness of differences between the public and people with ID leads to the formation of out-groups and in-groups, then leading to negative attitudes (McManus, Feyes, & Saucier, 2011).

Similar to theories of group preference, labelling is thought to lead to stereotyping and stigma

(Altman, 1981; Kordoutis et al., 1995) and promote the formation of negative attitudes. Applied to ID, it is thought that people with ID are seen as 'different' from 'normal people' and the specific differences lead to the creation of stereotypes (Altman, 1981). These stereotypes reduce people with ID to a narrow range of roles and expectations including dependency, sadness, isolation and emotional instability (Altman, 1981) and therefore negative attitudes and stigma develop (Taylor, 2011). Stigmatisation of an individual occurs when a person is thought to have a devalued attribute that categorises them into a devalued social group, which in turn creates negative reactions toward others, a process often a consequence of negative attributions (Major & O'Brien, 2005).

Throughout history, people with ID have had a label attached to them, and hence labelling theory has been a popular theory of attitude formation when applied to people with ID. The notion of labelling, when applied to people with ID, has been categorised as negative attitudes expressed towards the group that sets them apart from others (Werner, Corrigan, Ditchman, & Sokol, 2012). For example the reclassification from "idiots" and "imbeciles" to that of "mentally-retarded" resulted in changes in the way people were perceived (Patterson, 1987) and people labelled with 'learning difficulties' have been found to produce more positive attitudes than 'mentally subnormal' or 'mentally handicapped' (Eayrs, Ellis, & Jones, 1993).

However, people have also been shown to prefer interacting with people without ID, largely based on social and behavioural competencies rather than group membership (Soder, 1990). It is currently thought that labelling has little effect on people's attitudes towards disabilities, instead competencies of people with ID are thought to have more influence (Kersh, 2011) with studies finding little effect of labelling (MacDonald & MacIntyre, 1999).

In summary, current thinking regarding attitude formation; stigma, negative myths and stereotypes underlying discrimination resulting from learning theories and inter-group contact are all thought to be factors in the formation of attitudes toward people with ID (Antonak & Livneh, 2000; Waldman, Cannella, & Perlman, 2011). In general it is thought that people tend to underestimate the capacities of people with ID, due to a lack of exposure and information, misconceptions and ignorance which form negative attitudes, (Siperstein et al., 2003; Scior, 2011; Kersh, 2011). Despite the theories reviewed having been applied to attitudes towards people with ID, a recent review states that theories of attitudes are generally lacking a comprehensive and coherent explanation for this group and are in need of revision (Kersh, 2011).

3.3.3 Mechanisms for attitude change

3.3.3.1 Cognitive theories

Regarding early theorising about attitude change Heider (1946) suggested a balance theory proposing new information threatens balance so may result in attitude change. Balance theory has been expanded by expectancy-value models (Osgood and Tannenbaum, 1955) and cognitive dissonance models (Festinger, 1957), suggesting that when attitudes held about a given object are congruent with information presented then negative or positive attitudes will prevail. Such theories are current today and recent research suggests that attitudes can be altered if information which is dissonant with the attitude held (e.g. more positive information) is received, mediated by discomfort or guilt produced by dissonance (Kenworthy, Miller, Collins, Read, & Earleywine, 2011). When applied to people with ID, it suggests increasing challenging positive information and creating dissonance will promote more positive attitudes (Prothero & Ehlers, 1974). Most recently it has been proposed that

group responses can create attitude changing dissonance (Cooper, 2012). Whilst still current, cognitive theories of attitude change have been criticised for neglecting the role of affect (Ajzen, 2001).

3.3.3.2 Group Membership

Allport (1954) suggested that increased contact with a stigmatised group would increase positive attitudes and decrease stereotyped thinking (inter-group contact theory). Over years of research in racial relations the optimal contact hypothesis has been developed. Optimal contact has been found to be; regular and frequent, balanced in ratio of in-group and out-group members, with groups of equal status, genuine, across a range of settings, free from competition between the groups, and evaluated as important by the in-group (Dixon, Durrheim, & Terdoux, 2005). In addition contact, to be optimal should be with a counter-stereotypical member of the out-group, involve the achievement of a shared goal, be free from anxiety, and normatively sanctioned (Dixon et al., 2005). This approach has been criticised within the field of race relations to bear little resemblance to real world interactions and without reference to the impact of the collective attitude (Dixon et al., 2005).

Despite these criticisms inter-group contact seems to have been one of the most researched theories of change with regards to people with ID and was a major driving force for deinstitutionalisation (Spreen, 1977). However in a recent meta-analysis it seems that contact produces less attitude change for people with disabilities than other stigmatised groups, and it is thought that other factors are also pertinent in attitude change (Pettigrew & Tropp, 2006). Contact may be successful in changing specific attitudes to individuals but not generalise to the entire category, especially if the person is not thought typical of the entire social group (Scarberry, Ratcliff, Lord, Lanicek, & Desforges, 1997; Miller, 2002).

Mediators of inter-group contact with people with ID include; increased knowledge, decreased anxiety about interaction, and increased empathy towards the out-group (Pettigrew & Tropp, 2008) as well as exposure which is powerful enough to overcome stereotypes and depicts competent individuals (Yuker & Hurley, 1987). Further to this it is thought that the quality of contact is important not the quantity of contact (McManus et al., 2011). Most recently research has investigated the role of inter-group threat in negative attitudes towards people with ID, finding this to be a contributing factor (Alphen, Dijker, Bos, Borne, & Curfs, 2012).

Finally, attitude representation theory (Lord & Lepper, 1999) suggests that attitudes are more likely to change if one holds multiple representations of an object rather than one representation that is consistently activated. It leads on from this that if new information about a category such as people with ID is introduced attitude change may occur. Lord & Leeper (1999) continue to argue for Allport's (1954) contact hypothesis as the opportunity to be exposed to other exemplars of the attitude category. It seems that theories of cognitive dissonance and contact are most predominant in current thinking but are subject to criticism and require further consideration (Dixon et al., 2005).

3.3.4 Summary

Despite the improvement in overt attitudes of hatred and disgust towards people with ID, negative attitudes surrounding interpersonal issues and capability remain. Theories of attitude formation and change reviewed suggest that optimal inter-group contact and positive knowledge of people with ID may lead to attitude change.

This section has reviewed social psychology theories for attitude structure, formation and change and how these have been applied to attitudes towards people with ID. The following sections will draw on these theories to review and critique literature of how investigators have attempted to change attitudes. Predictors of positive attitudes towards people with ID and measurement issues are firstly addressed.

3.4 Predictors of positive attitudes towards people with ID

A review of correlational research investigating the factors that predict positive attitudes suggest that on the whole, amount of contact with and knowledge regarding people with ID are factors in positive attitudes (McManus et al., 2011). Mixed findings within some studies for the effect of prior contact has been explained through the quality of the contact e.g. contact with people with perceived competencies and with a shared task may be mediating factors (McManus et al., 2011). However another recent review of the literature (Scior, 2011) suggested more mixed findings for the effects of prior contact and suggested that, age and education may also be associated with attitudes towards people with ID. In particular this effect was stronger for younger people and those with higher educational attainments.

3.5 Measurement issues

Measuring attitudes has presented some challenges with numerous methods being employed. Aiken (2002) warns of the difficulties in measuring attitude change because of the complexity of human experience. However attitudes towards people with disabilities have been attempted to be measured in a number of ways.

The most common of these in the literature is through questionnaires, the gold standard being validated psychometric measures (Antonak & Livneh, 2000). With regards to measuring

attitudes towards people with ID, questionnaires have included; The Mental Retardation Attitude Scale (MRAS; Antonak & Harth, 1994) The Community Living Attitudes Scale (CLAS; Henry, Keys, Jopp, & Balcazar, 1996) The Attitudes to Disability Scale (ADS; Power & Green, 2010) and The Interaction with Disabled Persons Scale (IDP; Gething & Wheeler, 1992).

Antonak & Livneh (2000) provide an excellent review detailing the methods for measuring attitudes towards people with disabilities. In line with current theories as to the structure of attitudes, they conclude that attitudes have been successfully measured using explicit measures (such as surveys and questionnaires) and implicit methods (such as tests of association). They conclude that the investigation of attitudes towards disabilities needs methods that are psychometrically sound and multidimensional, including explicit and implicit attitudes. This is echoed in wider research literature (Wilson et al., 2000).

3.6 Changing attitudes towards people with ID

Recent reviews suggest that increasing positive information, and contact can sometimes impact on attitudes towards people with ID (Kersh, 2011) and these seem to be the current methods used in attitude research (Waldman et al., 2011). The majority of research has focussed on children using increased contact and knowledge, but as in other attitude research, results proved to have a mixed degree of success (see Norwicki & Sandieson, 2002; Siperstein, Norins, & Mohler, 2007). Research with an adult population can be informed by this literature, however it may not generalise.

Much investigation has been dedicated to the field of attitudes of the sexuality of people with ID. A review of this literature is beyond the scope of this review, however readers are directed to Futcher (2011).

To systematically review the existing research on interventions to change attitudes towards ID a systematic literature search was conducted using numerous databases (see Appendix A for databases and search terms used). This was aimed at capturing literature evaluating experimental interventions for adult's attitudinal change towards adults' with ID. Conference papers, theses and abstracts as well as papers not published in English were not included in this review, literature investigating the attitudes of parents of children with ID was excluded because this is a sub-group of the general population. There were a handful of studies looking at the attitudes of people with ID towards disability, which were outside of the scope of this review.

3.6.1 Inter group contact

Searches revealed interventions utilised with people with ID based on inter-group contact.

These include; exposure (Ruedrich, Schwartz, Dunn, & Nordgren, 2008; Slevin, 1995), role-plays with people with ID in medical examinations (Thacker, Crabb, Perez, Raji, & Hollins, 2007), G.P. contact with someone with ID after a referral compared to no contact (McConkey, Moore, & Marshall, 2002), three separate strategies; contact, protest and education (Corrigan et al., 2001), students attending workshops with actors with ID (Hall & Hollins, 1996), supporting people with ID and participating in planned activities (Nosse & Gavin, 1991), placements with people with ID (Murray & Chambers, 1991) involvement in the Special Olympics (Roper, 1990), teaching in special education classes (Parish, Eads, Reece, & Piscitello, 1977), and guided tours of institutions with people with ID (Seitz & Cleland, 1967; Kimbell & Luckey, 1964).

Overall, findings suggest that people had more positive attitudes and beliefs about people with ID after the interventions and Corrigan et al. (2001) found that contact had the greatest

effect. Teaching in special education classes and involvement in the Special Olympics did not produce significant change in attitudes. However there were a number of methodological problems with these studies, none had a follow-up period and only one used a psychometrically established measure of attitude. The use of a control group also varied across studies. Therefore whilst these results lend support for theories of attitude change through contact with a stigmatised group, this is difficult to comment on further, given the limitations in research designs. Further, in general the type of contact and not only the quantity of contact seems to predict positive attitudes (McManus et al., 2011), and this has not been consistently measured or reported.

3.6.2 Positive information

Providing information about people with ID in an attempt to change attitudes has also been a focus of research and thought to be needed (Werner & Stawski, 2012).

Interventions to improve attitudes through increase in positive information about people with ID have included; direct mail campaigns containing positive information about people with ID (Russell & Ayer, 1988), providing positive information about people with ID in the form of lectures (Spreen, 1977; Quay, Bartlett, Wrightsman, & Catron, 1961), providing dissonant information about people with ID (Seitz & Cleland, 1967), a training course with information about mental illness, including ID (Chinnayya, Chandrashekar, Moily, & Puttamma, 1990), a psychiatry course including information about ID (Laking, 1988), information about people with ID emphasising skills and abilities (MacDonald & MacIntyre, 1999) awareness training (Bailey, Barr, & Bunting, 2001), researching about other's knowledge of ID (Campbell, Gilmore, & Cuskelly, 2003), a course about people with ID (Prothero & Ehlers, 1974), and positive information and role-play (Wong & Wong, 2008). Most recently, Varughese, Mendes, & Luty (2011) investigated the impact of showing a picture of a person with ID who

was deemed to be attractive versus an unattractive picture on stigmatising attitudes of the general public. They found the attractive picture shifted attitudes in a positive direction, whereas the unattractive picture did not.

The majority of the studies found an increase in positive attitudes towards people with ID, although some found no significant effect on attitudes. The interventions were of differing lengths and content, making it difficult to draw firm conclusions as to the format of information that is most effective.

Again, there seemed to be a mix in the rigor of studies, with only two using widely accepted psychometric measures, and these were not ID specific. Encouragingly most of the studies used control groups, although only one study contained a follow-up. Hence it is difficult to ascertain how much the results were affected by flaws in methodology. The results lend some support for providing information as a method for attitude change, supporting theories of learning, cognitive dissonance and attitude representation. However the simplicity of providing positive information about people with ID might be challenged by theories that attitudes are multidimensional, and subject to multiple factors in their formation and change, which could explain some of the non-significant results. As such, experimental work in this area does not reflect the sophistication of theories of attitude formation which exists in mainstream psychological literature.

3.6.3 Combined contact and information

More recently there have also been a number of studies that have combined giving people more information about people with ID as well as providing increased contact, with varying degrees of success.

Interventions combining contact and information about people with ID have included; viewing a positive depiction of a man with Down Syndrome whilst reading information about Down syndrome (Varughese & Luty, 2010), an education course and contact with people with ID in the Special Olympics (Adler, Cregg, Duignan, Ilett, & Woodhouse, 2005), engaging in a course about people with ID and physical disabilities and experience of teaching physical education to people with ID (Hodge, Davis, Woodard, & Sherill, 2002), lectures about communication in people with ID and interacting with a tutor with ID (Tracy & Iacono, 2008), a combination of lectures about people with ID and direct contact (Kobe & Mulick, 1995) case presentations or lectures and tours of a rehabilitation centre (Carsrud, 1984; Kordoutis et al., 1995), a combination of information, direct contact, vicarious experience and persuasive messages through media, readings and lectures (Rizzo & Vispoel, 1992), site visits and lectures (Rees, Spreen, & Harnadek, 1991) and a course about people with ID combined with direct contact (Zwiebel, 1987).

Much of this research found that attitudes towards people with ID increased in a positive direction after a combination of information and contact with people with ID. However methodological flaws such as some studies lacking a control group, and robust measurement, make it difficult to draw firm conclusions. Despite this there seems to be some evidence to support the theories of learning, information processing and inter-group contact. Although due to the mixed results, with some studies finding no effect of intervention e.g. (Kobe & Mulick, 1995; Rees et al., 1991), other factors may be important in attitude change.

3.6.4 Summary

Many of the studies investigating methods to produce attitude change in people with ID have not used psychometrically robust scales of measurement, despite the development of a wide

range of measures, which have been used to measure attitudes in correlational research. This poses the question as to whether they have actually measured changes in attitude and points to validity and reliability issues. Almost all of the studies to date do not seem to have controlled for social desirability, which could be a reason that mainly positive results have been found by researchers. Also, explicit, unidimensional attitudes have been the focus of measurement, in the context of more advanced multidimensional theories about attitudes, one could question whether attitudes have really changed (Wilson et al., 2000). Further to this many of the studies do not include a control or comparison group, nor random allocation to groups, limiting the generalisability of findings thus far.

Currently research has mainly focussed on interventions with professionals that 1) give explicitly positive information about ID through written or spoken mediums 2) provide contact with people with ID and 3) a combination of the two. This has produced mainly positive but also mixed results. Other possible interventions are now reviewed.

3.7 Changing attitudes towards stigmatised groups through the media

Media representations have been found to have influence over discrimination (Aveyard, 1997), German (1994) found media representations to have an impact on racial attitudes and Philo (1997) found they can override personal experience of a group. Limited research of public media campaigns has shown positive shifts in attitudes towards people with mental illness (Paykel, Hart, & Priest, 1998). Farnall & Smith (1999) found that positive portrayals of people with disabilities on television related to more positive perceptions and feelings towards disabilities. Accordingly, emphasis has been placed on the media in determining attitudes and knowledge (Hannon, 2006).

There is a lack of research investigating the effect of the media on attitudes towards people with ID. Most research has investigated either how much media attention people with ID receive or the impact of negative portrayals. In a qualitative study participants reported that their knowledge and attitudes of people with ID were most influenced by media representations, however people with ID were thought to be under-represented in the media (Coles & Scior, 2012). Wilkinson & McGill (2009) in a study investigating the attention of the British newspapers towards people with ID from 1983 to 2001 found that there had been a shift to more adult portrayals of ID, however representations of people with ID were still lacking and portrayals were linked with other socially devalued groups such as murderers. Sinson & Stainton (1990) suggested that images depicting pity reinforced negative attitudes. They found that media portrayals only had a small effect on changing attitudes when people had a particular interest in it or it depicted very talented individuals. Doddington et al. (1994) also found that charity advertising had a negative effect when posters were aimed at eliciting pity.

Limited research includes, positive effects of newspaper articles depicting people with ID as active members of the local community on the subsequent publishing of positive information about people with ID (Jones, 1996). Iacono et al., (2011) conducted a study investigating the impact of watching a DVD depicting every-day life situations of a person with developmental disabilities on attitudes, but did not find a statistically significant shift in attitudes, despite qualitative data suggesting more positive attitudes. 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 a picture of someone with Down Syndrome made accessible a more personal

account of competence and therefore shifted attitudes.

3.8 Summary, research gaps and implications for future research

It is clear from the research reviewed that negative attitudes still exist in society, although these are less explicit. The social model of disability suggests that people with ID are in part disabled through the social construction of disability in society, including negative attitudes (Michailakis, 2003). These negative attitudes present barriers to participation (Cummins & Lau, 2003) and affect mental health (Cooper et al, 2007). Societal policies are limited in their ability to increase inclusion and well-being for people with ID unless individual attitude change takes place (Kobe & Mulick, 1995; Spreen, 1977; Sandler & Robinson, 1981).

One needs to look for other ways to influence attitudes towards people with ID. The social psychology literature on attitudes has focussed on increasing inter-group contact and knowledge of out-groups in an attempt to alter attitudes. The ID experimental literature has also followed these theories. However there are gaps in research and limitations in methodology. This literature also seems to be behind advances in psychological theories of attitude change. Notably, future research needs to focus on robust studies of interventions designed to change attitudes towards people with ID including measurement of implicit and explicit attitudes, in line with recent developments in social psychology.

Research reviewed also focused on professionals with little mention of the general public, which is an area for future research. We also know from social psychology that attitudes are complex and are subject to many factors including affect, context, social, group and individual factors, therefore further research should aim to investigate these aspects.

Further to this, research in other stigmatised groups is emerging suggesting the impact of the media on attitudes. This seems to be a neglected field within attitude research towards people with ID and merits further investigation. Most of the literature reviewed has used the provision of positive information about people with ID to improve attitudes. However literature suggests that it is the quality of contact that matters, including the characteristics of the individuals of the out-group. Therefore depicting competent individuals, who elicit positive feelings, may be a focus of future interventions.

Given findings that people with ID are affected by negative attitudes in numerous ways, and the advancement in social psychological literature, it seems timely that interventions to change attitudes towards people with ID are given more rigorous investigations with a wider focus.

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ATTITUDES TOWARDS PEOPLE WITH INTELLECTUAL DISABILITIES

Section B: Empirical Paper

Public Attitudes Towards People With Intellectual Disabilities (ID)
After Viewing Olympic/Paralympic Performance.

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Abstract

Background. Despite there being some changes to the way that people with Intellectual Disabilities (ID) are viewed in society, negative attitudes prevail. One of the aspirations of the Paralympic games 2012 organisers was to influence the public's attitudes towards disabled people. The aim of this study was to investigate whether stimuli depicting people with ID performing at a Paralympic level of sport can change attitudes towards ID.

Materials and Methods. A mixed randomised comparison group design was employed comparing two groups; those who viewed Paralympic level ID sport footage and information, and those who viewed Olympic footage and information on measures of implicit attitudes towards disability and explicit attitudes towards people with ID. One hundred and fourteen students at a UK university were administered the measures pre and post the stimuli presentation.

Results. Implicit attitudes significantly changed in a positive direction from T1 to T2 for both groups. Attitudes of empowerment increased from T1-T2, nearing significance.

Conclusion. The findings provide evidence that Paralympic (ID) and Olympic footage plus written information seems to change attitudes towards people with ID, at least in the short term. Viewing elite sports information and footage may have at least a short term effect on attitudes towards ID which provides some tentative support to one of the London 2012 legacy promises. However it does not seem to matter which footage people are exposed to. Given both types of stimuli proved effective it suggests the possible role of affect in changing attitudes through the media, which warrants further investigation.

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

Introduction

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). It is predicted that over four million people will watch the Paralympic games 2012 (IPC, 2012). Government initiatives such as Valuing People Now (Department of Health (DOH), 2009) also state the need for attitude change. However neither the DOH (2009) nor the organisers of the London 2012 Games specify exactly how this change will be brought about. The DCMS suggest attitude change is made possible through media representations of people with disabilities, but do not define the mechanism by which this will be achieved or present supporting evidence.

Attitudes towards people with Intellectual Disabilities

The need for a change in public attitudes towards people with Intellectual Disabilities (ID) is clearly apparent, as studies have consistently shown that people with ID are highly stigmatised (Thomas, 2001). Although somewhat encouragingly, a more recent multinational study found that there has been a shift in a positive direction of attitudes toward people with ID (Siperstein, Norins, Corbin & Shriver, 2003). However, prejudices seem to still exist, with most respondents feeling that segregated sports teams, housing and schooling would be more suitable for people with ID (Siperstein et al., 2003).

The effect of negative attitudes

Negative attitudes have been found to be a barrier to inclusion in mainstream life for people with ID (Abbott & McConkey, 2006; Verdonschot, De Witte, Reichrath, Buntinx, & Curfs, 2009) and it has been noted that social policy alone does not necessarily translate to greater inclusion but that a shift in the general public's attitudes might make this possible (Kobe & Mulick, 1995). Hence, a consequence of such a shift may result in increased social inclusion.

This is important as people with ID generally have a lower quality of life than other groups in society (Baker, 2001; Emerson, Cullen, Hatton & Cross, 1996; Hensel, Rose, Kroese, & Banks-Smith, 2002) and it is thought that increased engagement in social activities indicates a higher quality of life and increased well-being (Bramston, Bruggerman, & Pretty, 2002). This in turn points to increasing public positive attitudes as an important step towards increased well-being and quality of life. Given that people with ID are a population vulnerable to low self-esteem and psychological disorders, in part contributed to by negative attitudes (Campbell, 2009; Dagnan & Waring, 2004), increasing inclusion and reducing discrimination through promoting positive attitudes seems a potentially fruitful avenue for intervention.

Formation of attitudes and how they are changed

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; Yunker, 1988). Early learning theories positioning stigma reduction as central to attitude change proposed the 'contact' hypothesis, suggesting 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 (Allport, 1954).

Later learning theories, incorporated concepts such as the 'fundamental negative bias' (Tesser, 1990) suggesting negative attitudes develop if 1) something that is observed stands out sufficiently 2) for whatever reason it is regarded as negative and 3) the context is vague/sparse. In addition cognitive dissonance theory (Festinger, 1957) has been the focus of research in social psychology and applied to people with ID. This theory suggests that the presentation of dissonant information to attitudes already held can result in attitude shifts. 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 will result in a more positive attitude shift (Siperstein et al., 2007).

More recent research has supported these ideas by demonstrating that attitudes can be influenced positively if more information about ID and more structured contact with people with ID is given, with an emphasis on good quality contact (McManus, Feyes, & Saucier, 2011; Yazbeck, McVilly & Parmenter, 2004). For example, studies with medical students found attitude change following information sessions and opportunities to interact with people with ID, however it is unclear whether this was a sustained effect (e.g. Tracy & Iacono, 2008).

Whilst concern has been expressed in the research literature about the extent to which generalisation of the contact hypothesis from specific attitudes towards the attitude object to the entire social group occurs (Hamburger, 1994; Miller, 2002) other findings dispute this. A recent review of the evidence suggest that this critique is plausible but does not take into account the impact of affect (e.g. positive feelings contribute to attitudes and therefore generalisation) and thus argue that generalisation does occur (Pettigrew & Tropp, 2006). Reviews found 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 (Pettigrew, 2008).

Factors of the evaluator that predict attitudes

Research about attitude change has concentrated on both the 'perceived' and the 'perceiver' or 'evaluator'. Reviews of attitudes towards people with ID report mixed findings as to the effect of various factors of the evaluator on the formation of negative attitudes towards people with ID. The main factors that have been studied in relation to attitudes towards people with ID have been age, gender, socio-economic status and amount of prior contact with people with ID. Kersh (2011), in her review of the literature, suggests that there is little impact of age and gender on attitudes, however previous studies have found that females and younger people have more positive attitudes (Pace, Shin, & Rasmussen, 2010; Panek & Jungers, 2008; Yazbeck, McVilly, & Parmenter, 2004). With regards to prior contact, both quantity and quality of contact is thought to be influential in more positive attitude development (McManus et al., 2011; Yazbeck et al., 2004).

Media and attitude change

The different vehicles for attitude change towards people with disabilities have also been explored. Television has been found to influence attitudes towards people with disabilities (Byrd, 1989; Daruwalla & Darcy, 2005). Overall evidence suggests that the media is an important medium through which people form and maintain their attitudes towards groups in society (Corrigan et al., 2001; Wilkinson & McGill, 2009). This influence can be both positive (Coles & Scior, 2012), through depictions that challenge stereotypes or negative (Aveyard, 1997) through stigmatising images such as those designed to elicit pity (Doddington, Jones, & Miller, 1994; Sinson & Stainton, 1990; Wilkinson & McGill, 2009). Some evidence exists that 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 disabled people in particular (Farnall & Smith, 1999).

There is a lack of research to support this effect regarding people with ID however a

recent qualitative study found that people reported their knowledge and attitudes of people with ID to be most influenced by media representations, despite people with ID not often being represented in the media (Coles & Scior, 2012). In support of media impacting on 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 a picture of someone with Down Syndrome made accessible a more personal account as well as highlighting other competent features such as being an office worker and therefore shifted attitudes. They conclude that viewing a picture may be an effective substitute for direct contact in attitude change.

Sport, media and disabilities

Watching and following sport through a variety of mediums is a popular activity and the London 2012 Paralympics represents 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 presents a perfect opportunity to consider how such exposure might impact on attitude formation, especially for ID athletes who are re-included in the Paralympics after a 10 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'. Sports can play a vital role in not only including people with ID in the community, but also highlighting the abilities of individuals with ID (Siperstein, Norins, Corbin, & Engstrom, 2005). 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. One such study investigated the impact of physically disabled paralympians teaching children sports. It was thought that this would present the children with a challenging untypical view of disabled people. They found that attitudes shifted in a positive direction (Krahe & Altwasser, 2006).

Most research on attitude change towards people with ID through sport has investigated the effects of the Special Olympics, with mixed findings. Shriver (1997) found an increase in positive attitudes towards people with ID in children after viewing the Special Olympics in 1995. Ozer, et al. (2012) also found an increase in positive attitudes towards youth with ID after non-disabled youth participated in the Special Olympics. In contrast, Roper (1990) did not find an increase in positive attitudes towards people with ID after non-disabled participants took part in the Special Olympics, despite this activity providing contact with people with ID (Harada, Siperstein, Parker, & Lenox, 2011). Freudenthal, Boyd, & Tivis (2010) also failed to find a significant change in perceptions of ability in people with ID after medical students participated in the Special Olympics, however qualitative feedback suggested a shift in positive perceptions. Roper (1990) suggested that attitude shift may not have occurred because the perception of people with ID as competent is a major factor in producing attitude shifts. This factor could explain the lack of positive findings in these studies and links to current theories of cognitive dissonance.

Methodological issues

Measuring such changing attitudes has presented some challenges with numerous methods being employed. Antonak & 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 explicit measures (such as surveys and questionnaires) and implicit 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 conclude that the investigation of attitudes towards disabilities needs methods that are psychometrically sound and multidimensional, including explicit and implicit attitudes. In addition, reviews within social psychology suggest the need for implicit and explicit attitude measurement, despite debate as to the link between these concepts (Bohner & Dickel, 2011).

Summary

Despite some methodological challenges, previous research suggest that exposure via the medium of television with content showing people with ID in a positive, credible and informed way, challenging 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 disabled people. However, such a mechanism is yet to be tested for people with ID. An increase in positive attitudes toward people with ID has been found to be a mediator in the success of social inclusion and hence lead to an increase in the quality of life for this group of people.

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

Method

Participants and sample size

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. Complete data sets were available for $N = 114$ (73, women, 41 men) due to drop-out from T1-T2. All the students were aged 18-years old or above ($M_{age} = 24.81$ years, $Range = 19 - 53$ years, $SD = 8.62$).

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, therefore an opportunistic sample was obtained. However, consideration was given to the sample being representative of the viewing population by the selection of courses with a wider age range than the usual student sample.

Sample size and adequate power were considered in relation the given design. Past studies were located and the effect size found for similar designs and populations, where this was not possible effect size was set for a medium-large effect to be detected ($r = .8$ or $\eta^2 = 0.10$, or $R^2 = 0.10$ and the p value for significance set at 0.05 (Clarke-Carter, 2010). Given these parameters the sample size required ranged from $n = 30$ (for the repeated measures) to $N = 119$ (for the multiple predictors). The sample size used was $N = 120$.

Materials and Procedure

Design.

Participants were randomly assigned using a block randomisation strategy into two groups; an experimental group (Group A) and a comparison group (Group B). This strategy was chosen over minimisation or stratification because equitable group sizes were required and not prognostic equality across groups (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 (see Appendix B), and watched a 20 minute video of television quality footage of people with ID performing at a Paralympic level of sport. The comparison group were provided with equitable information

about the success of Olympians (see Appendix C) 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.

A pre-post test design was used to assess change in attitudes (implicit and explicit in line with previous research) after the intervention using a number of measures including a measure of desirable responding. This is thought to be an important co-variable when utilising self-report questionnaires (Li & Bagger, 2007). Demographic information and prior contact with people with ID were collected to enable these to be investigated as predictor variables of the attitude measurements.

Materials.

Stimulus material and tasks. The two interventions (Paralympic or Olympic) both consisted of the presentation of 20 minutes of video footage as a group on a large screen. In the experimental group (Paralympic intervention) the video footage consisted of people with ID performing at a Paralympic level of sport, in particular this footage depicted swimming and athletics at international competitions in which success was highlighted. In the comparison group (Olympic intervention) the video footage consisted of Olympians performing at the Olympic games, Athens, matched for the type of footage in the Paralympic intervention. Both sets of footage were obtained from organisations that had access to television broadcasting quality footage (see Appendix D).

The two interventions also had written information in the form of A4 sheets with pictures, presented prior to the footage. The Paralympic intervention included information about the successes of people 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 i.e. newspaper articles as well as 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).

The implicit attitude measure used was the 'Disability Attitudes Implicit Association Test' (DA-IAT; Pruett & Chan, 2006; project implicit) (see Appendix E) which was adapted to 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.

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 disabled or abled persons into the superordinate categories of disabled persons or abled persons. 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' 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 elsewhere to denote these concepts (Pruett & Chan, 2006).

Randomisation of the blocks was used to avoid ordering effects. The data were scored using the same algorithm as Pruett & Chan (2006). This scores the 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). IAT 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.

Explicit attitudes towards people with ID measure.

The Community living attitude scale- mental retardation (CLAS-MR). The Community Living Attitude Scale- Mental Retardation (CLAS-MR; Henry, Keys, Jopp & Balcazar, 1996; Henry, Keys & Jopp, 1999) (see Appendix F) was chosen to measure explicit attitudes towards people with ID as it includes four sub-scales, thought to measure multiple dimension of attitudes towards people with ID. The CLAS-MR sub-scales are 1) attitudes about the extent to which persons with ID should be empowered to make choices about their lives 2) attitudes regarding the exclusion of people with ID from community life 3) attitudes regarding the need to shelter people with ID from harm in communities and 4) beliefs regarding the extent to which people with ID share a common humanity with other people in

society. A higher score on sub-scale one and four indicates a more positive attitude and a lower score on sub-scale two and three indicates a more positive attitude. Scores on sub-scales two and three 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' and 'money'.

The CLAS-MR has been used in other studies to measure attitudes (Henry, Keys, Balcazar & Jopp, 1996; Ouellette-Kuntz, Burge, Henry, Bradley & Leichner, 2003; Schwartz & Armony-Sivan 2006; Yazbeck et al., 2004) and is regarded as a robust measure of attitudes towards people with ID (Henry et al., 1996). The psychometric properties, test-retest reliabilities are reported as all over, $r = .7$, cronbach's alpha are reported to range between .75 and .86, indicate that it is a valid and reliable measure for the purpose of this study (Henry et al., 1999).

The balanced inventory of desirable responding (BIDR). The BIDR (Paulhus, 1991) was used to measure social desirability in the responses of participants (see Appendix G). The BIDR has been used in other studies to measure the extent of desirable responding and is regarded as a robust measure (Henry et al., 1999). Test-retest reliabilities are reported as $r = .69$ and $r = .65$, for the two sub scales and cronbach's alpha is reported to range between .68 - .86, indicating that it is a reliable measure for the purpose of this study (Paulhus, 1991; Li & Bagger, 2007).

Demographic questionnaire. A brief questionnaire was designed to assess the level of prior contact with people with ID using a Likert Scale, demographics of the participants and level of education and employment were also recorded (see Appendix H).

Procedure.

Both groups were given the information sheet (see Appendix I) and the consent form (see Appendix J), instructed to read them, and invited to ask questions of the researchers. If consent for participation was given they were administered the three measures and the demographic questionnaire (T1). One to three weeks later (T2) the experimental group were instructed verbally that they would be reading about athletes with ID, some of whom would be performing in the Paralympics 2012 and then watching 20 minutes of footage about some of these athletes. They were told that all the athletes shown had ID. After they had read the information about the ID athletes 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 three measures as well as a de-briefing information sheet (see Appendix K) and invited to ask any questions. The sequence of measures at T1 were; DA-IAT, demographic questionnaire, CLAS-MR, BIDR and at T2 were; DA-IAT, CLAS-MR, BIDR. The demographic questionnaire was delivered after the DA-IAT to avoid priming of the implicit attitude measure.

Ethical considerations. The study received University ethical approval (see Appendix L) and the BPS guidelines (BPS, 2009; 2011) were followed with regard to deception (not being aware at the beginning that the study was measuring a change in attitudes) of the participants including the provision of a de-briefing sheet to ensure the study met ethical requirements for research.

Analysis

Mixed ANOVA and MANOVA were used to assess the main effects of time and group. A correlational analysis was also used to assess the factors that might contribute to attitudes and attitude change towards people with ID. Pearson's R was used to assess the

correlations between variables such as, attitude scores and amount of prior contact (coded into dummy variables) and point-biserial Pearson's R for gender. Standard multiple regression and regression was used to identify predictor variables on the attitude scales.

The hypotheses were:

- Explicit and implicit attitudes will increase in a positive direction after the participants watch elite ID footage and information (experimental group).
- There will be no difference in explicit and implicit attitude scores over time for the comparison group.
- Amount of prior contact, age and gender will contribute significantly to the prediction of attitude.
- There will be an association between social desirability scores and explicit attitude scores.

Results

Assumptions of the analysis

Prior to data analysis, variables were evaluated via tests of skewness, kurtosis and normal distribution in order to determine whether they met parametric assumptions (see Appendix M). Tests of normality were not used due to the sample size and therefore the likelihood of gaining a significant result from small deviations from normality. Levenes statistic was also used to assess the homogeneity of variance for the between-subjects tests (see Appendix N). Parametric assumptions were deemed to have been met for all variables after outliers had been explored. To avoid type 1 errors created by a number of tests carried out, a significance level of 0.01 using Bonferroni correction was adopted for ANOVAs.

Participants' 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, $n = 52$). Demographic information is reported in Table 1. Groups were effectively matched on gender, disability, level of education, employment status and prior contact with people with ID. Statistical comparison of the groups found no statistically significant differences on these demographic variables (see Appendix O).

Comparison of the outcomes measures revealed no significant differences between the groups on the outcome measures (DA-IAT, BIDR or CLAS-MR scales) at T1, suggesting the groups were comparable on these variables (see Appendix P).

Table 1

Participant demographic information

	Paralympic stimuli (Experimental)	Olympic stimuli (Comparison)
Gender		
Male	20(31.7%)	21(40.4%)
Female	42(66.7%)	31(59.6%)
Disability		
Yes	1(1.6%)	1(1.9%)
No	61(96.8%)	51(98.1%)
Level of education		
School	0	0
College	0	0
University	48(77.4%)	44 (84.6%)
Post-graduate	9(14.5%)	8 (15.4%)
Employment status		
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%)

Main Analysis

Changes in attitude following stimuli.

A mixed MANOVA was performed on the explicit outcome 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, $F(1, 112) = .00, p = ns$. nor was there a significant interaction effect of stimuli (group) on scores from T1 to T2, $F(1, 112) = .113, p = ns$.

Separate mixed 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 empowerment sub scale scores, $F(1, 112) = 5.77, p = .02, r = .22$. 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 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.

However, there were changes in score from T1-T2, for the other CLAS-MR sub-scales in the desired direction. Interestingly, although not reaching significance CLAS-MR exclusion scale scores increased from T1 ($M = 1.63, SD = .59$) to T2 ($M = 1.68, SD = .66$) more for the comparison group than scores from T1 ($M = 1.61, SD = .62$) to T2 ($M = 1.63, SD = .60$) for the experimental group. This indicated a trend in the comparison group of a

stronger preference for exclusion after stimuli. CLAS-MR similarity scale scores increased from T1 ($M = 5.18, SD = .61$) to T2 ($M = 5.26, SD = .56$) more for the experimental group than from T1 ($M = 5.16, SD = .54$) to T2 ($M = 5.18, SD = .62$) in the comparison group, indicating a trend in the experimental group of a stronger preference for seeing people with ID as similar to themselves after stimuli. CLAS-MR sheltering scale scores decreased from T1 ($M = 2.96, SD = .75$) to T2 ($M = 2.92, SD = .69$) for the experimental group and increased for the comparison group from T1 ($M = 2.81, SD = .82$) to T2 ($M = 2.84, SD = .81$), indicating a trend in the experimental group for a preference towards less sheltering of people with ID after stimuli but a preference for more sheltering in the comparison group. Finally, CLAS-MR total scores increased slightly more from T1 ($M = 188.65, SD = 20.98$) to T2 ($M = 190.61, SD = 20.55$) for the experimental group than from T1 ($M = 189.23, SD = 17.86$) to T2 ($M = 190.25, SD = 22.08$) for the comparison group, indicating that overall there was a tendency for people to express more positive attitudes from T1-T2 and slightly more so for the experimental group. Observed power ranged from .05 to .20.

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, $F(1, 110) = 14.29, p < .01$. 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 scores from the comparison group and experimental group were in general the same $F(1, 110) = .295, p = ns$. 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.

Correlations and predictions of attitudes.

Bivariate Pearson's and point-biserial Pearson's correlation analyses were conducted

between variables at T1 and T2 (see Table 2). Amount of prior contact was coded into dummy coding to enable correlations. Analysis suggested that there were significant relationships at T1 between gender and total CLAS-MR score, $r_{pb} = .199$, p (one-tailed) $< .05$, and a significant positive correlation between daily contact and total CLAS-MR score, suggesting that at T1, daily contact with people with ID and being female related to more positive explicit attitudes. At T2 tests revealed a significant positive correlation between daily contact and CLAS-MR scores and DI-IAT scores, suggesting that at T2 daily contact was related to more positive explicit and implicit attitudes. Implicit and explicit attitudes did not yield a significant correlation. This partially supports hypothesis three.

Table 2

Summary of intercorrelations using Pearson's bivariate correlation coefficient (r_s) for scores on the main variables as a function of time

Variables	1	2	3	4	5	6	7	8
1. CLAS-MR	-	0.12	0.06	0.06	.21*	0.12	-0.08	-0.04
2. DA-IAT	0.01	-	0.02	0.09	.21*	0.01	0.03	-0.08
3. BIDR	-0.04	0.05	-	0.08	-0.08	0.13	0.01	-0.01
4. Age	0.07	0.04	0.13	-	0.08	0.02	-.17*	-0.02
5. Daily	.28**	-0.03	-0.07	0.08	-	-.24**	-.20*	-0.17*
6. Weekly	0.07	-0.01	0.14	0.02	-.24**	-	-.22*	-.19*
7. Monthly	-0.05	0.05	-0.01	-.17*	-.20*	-.22**	-	-0.16*
8. 3 Monthly	-0.01	-0.14	-0.01	-0.02	-.17*	-.191*	-.16*	-

Note. Intercorrelations for T1 ($N = 115$) are presented below the diagonal, and intercorrelations for T2 ($N = 115$) are presented above the diagonal. Correlation coefficients for T1 are presented in the horizontal rows, and means and standard deviations for T2 are presented in the vertical columns, (one-tailed $p < .05^*$, $p < .01^{**}$).

Regression analysis

Assumptions of the regression analysis.

Variables were evaluated via tests of multicollinearity, independent errors and homoscedasticity in order to determine whether data met assumptions for regression analysis. The Durbin-Watson test was used to assess the independence of errors and multicollinearity in the data by assessing any high correlations between variables in the data and eigenvalues. Plots revealed that the standardised residuals were normally distributed (see Appendix Q). None of the assumptions were violated and therefore simple multiple regression and regression analysis was thought appropriate.

Gender and daily contact were entered into the regression analysis with the dependent variables CLAS-MR at T1, CLAS-MR at T2 and D-IAT at T2. Case-wise diagnostics revealed one outlier present for the multiple regression at T1 and regression with CLAS-MR at T2 and three for DA-IAT at T2 with a criteria of three standard deviations, however these cases were found not to have undue influence on the model. Forced entry was used because 1) there were good theoretical reasons to include the chosen predictors and 2) they were not thought to differ in degree of prediction within the blocks.

The results of the analysis for CLAS-MR T1 are shown in Table 3. The variables in the analysis accounted for 11.4% of the variance in the model. The addition of gender into the model significantly increased predictability in the model. The multiple R was significantly different from zero: $F(1, 111) = 4.18, p < 0.01$. This partially supports hypothesis three, that prior contact with a person with ID and gender will predict attitude scores.

Table 3

Standard Multiple Regression Analysis Predicting T1 CLAS-MR Scores From Daily Contact With People With ID and Gender

Predictor	<i>B</i>	<i>SE B</i>	β
Step 1			
Constant	186.37	1.94	
Less often vs. daily contact	14.48	4.63	0.283**
Step 2			
Constant	174.3	6.21	
Less often vs. daily contact	13.94	4.58	0.273**
Gender	7.42	3.63	0.183*

Note. $R^2 = .08$ for step 1, $\Delta R^2 = .03$ for step 2 ($p < .05$). * $p < .05$ ** $p < .01$

Daily contact was entered into the regression analysis with the dependent variable CLAS-MR score at T2 (Table 4). Daily contact accounted for approximately 4.2% of the variance in the CLAS-MR scores at T2. The R was significantly different from zero: $F(1, 113) = 5.01, p < .05$.

Table 4

Predictors of CLAS-MR total score at T2

	<i>B</i>	<i>SE B</i>	β
Variable			
Constant	188.22	2.14	
Less often vs. daily contact	11.48	5.13	0.206*

Note. $R^2 = .042$ ($p < .05$). * $p < .05$.

A similar analysis was carried out for the DA-IAT scores at T2 (Table 5). Daily contact accounted for approximately 4.3% of the variance in DA-IAT scores at T2. The R was significantly different from zero: $F(1, 112) = 5.05, p < .05$.

Table 5

Predictors of DA-IAT score at T2

	<i>B</i>	<i>SE B</i>	β
Variable			
Constant	-0.38	0.03	
Less often vs. daily contact	0.16	0.07	0.208*

Note. $R^2 = .043$ ($p < .05$). * $p < .05$.

Discussion

Aims and findings

Changing attitudes.

Paralympic (ID) and Olympic footage plus written information does seem to change attitudes towards people with ID, at least in the short-term. Implicit attitudes towards

disability are significantly more positive following these stimuli and explicit attitudes of empowerment showed a trend to more positive attitudes following stimuli. However, it does not seem to matter which footage or information people are exposed to. Perhaps this result reflects an effect of watching competitive sport on attitudes towards disability e.g. seeing people win makes them view others (including those with disability) as being able to achieve. Despite this interesting finding, it is not possible to know whether attitudes towards other groups would have also changed following footage depicting achievement. 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.

Theories suggesting the role of affect in attitude evaluations (Ajzen, 2001) e.g. more positive affect, can produce more positive attitudes towards a stigmatised group may help to explain these findings. Various ways have been attempted to explain the role of affect in attitude evaluations e.g. differing reactions to persuasive information, conditioning and priming effects, (Clore & Schnall, 2005) which could have mediated the results found in this study. For example, people may have been primed to feel happy by both stimuli, and without being able to attribute this mood state to something, the affect led to positive attitude responding (Clore & Schnall, 2005). However, this is only speculative and requires further investigation.

The findings do not support the hypothesis that Paralympic footage and information will have a greater effect on increasing positive explicit and implicit attitudes towards people with ID than a comparison of Olympic footage and information or that all explicit attitudes would shift in a positive direction. It has been found that positive contact with, and information about people with ID (similar to that provided through the Paralympic footage and information) can shift attitudes in a positive direction (McManus et al., 2011). Therefore

it was predicted that the Paralympic stimuli would produce a shift in attitudes towards people with ID.

It could be that the information received through the Paralympic condition was too incongruent with attitudes already held about people with ID e.g. attitudes such as 'incapable'. Therefore, when presented with information about people with ID being highly capable and achieving, people may have not altered their explicit attitudes because the information was discredited or the group member was not thought to be typical of the entire social group (Hamburger, 1994; Miller, 2002). It is also possible that that the positive affect of the type of footage was so powerful as to overshadow more subtle factors, such as who the athletes were.

Alternatively, this result could be explained through a flaw in the measurement. It seemed that people generally held highly positive attitudes at T1, making attitude change scores on the CLAS-MR difficult to detect, resulting in a possible ceiling effect. This could be explained by the specific sample used, of University students. This sample is limited in the representativeness of the entire population and may have presented with higher baseline scores.

Interesting patterns of attitude change were observed. However as these were not statistically significant it is important to apply caution when discussing these. CLAS-MR sub scales displayed a trend in the desired direction, and on the whole the experimental group scores indicated a trend to more positive attitudes at T2 than the comparison group scores for similarity, sheltering and total attitude scores. It could be that a lack of power meant significance levels were not reached, and these patterns suggest promising findings of possible attitude change.

On the sheltering sub-scale and exclusion sub-scale there were more interesting patterns of change, although again, these failed to reach statistical significance, and as such, should be interpreted with care. Attitudes of exclusion and sheltering showed a pattern of

increase after Olympic stimuli suggesting that people tended to preference people with ID to be excluded and sheltered from society. It could be that watching Olympians performing created a greater divide in achievement between the two groups Olympians and people with ID, and further highlighted deficits in the ID group, thus creating more negative attitudes in an attempt to protect the in-group status, lending support to inter-group processes in attitudes (Allport, 1954).

Factors that correlate with attitude scores.

Findings that prior contact, and gender significantly correlate with attitude scores towards people with ID are in line with previous research suggesting females, and people with more prior contact have more positive attitudes towards people with ID (McManus et al., 2011; Yazbeck et al., 2004). The findings of this study were also in line with those of Kersh (2011) who concluded in her review that there was no consistent association between attitudes towards people with ID and age.

A strength of this study is that the results are unlikely to be explained through social desirability, which has been suggested as a reason why females are more likely to report positive attitudes (Kersh, 2011) as the desirability measure used did not correlate with attitude scores. What is most interesting is that gender associations disappeared at T2, suggesting that the interventions moved the attitude scores of the groups to a position unaffected by the variance in these demographic features. It could be that females showed a greater shift in attitudes or that their scores were already higher at base-line, however daily contact remained as a significant predictor of both greater implicit and explicit attitudes.

Relationship between implicit and explicit attitude measures.

Implicit and explicit attitudes scores did not seem to yield significant correlations. There is much debate in the literature as to the relationship between implicit and explicit attitude measures, including whether they are less likely to correlate in controversial topics

such as stereotyping (Hofmann, Gschwendner, Gschwendner & Schmitt, 2005). It has been argued that implicit and explicit attitudes are not measuring the same phenomenon, perhaps due to structural fit e.g. the differing measurement instruments structure may be the cause of differing outcomes and not differing attitude concepts (Payne, Buckley & Stokes, 2008) or because implicit measurements are highly context-sensitive (Gawronski, 2009). Therefore this result is not unexpected. Also, the implicit measure was for attitudes towards disability in general, therefore it might be that generalisation to ID was problematic.

Limitations

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. Furthermore, there was a marked drop-out rate from T1 to T2 therefore factors that influenced drop-out may have biased the sample in some way. Further to this, the explicit measure may have been subject to ceiling effects, as shown by high scores pre-stimulus.

Secondly, the implicit attitude measure used (DA-IAT) is still early in its development and therefore is not specific to people with ID. Despite this it was felt important to include this measurement in the design and to investigate implicit attitude change as recommended in this type of research (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 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). However, the findings do indicate promise as

change did occur after a quite minimal intervention. Observed power calculations also suggest that some of the tests might have been underpowered to detect significant results. Also it is not clear from this study how quickly this effect might fade as no follow-up data was collected.

Clinical and theoretical implications

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 appropriate coverage, attitudes could shift more widely than has been possible previously.

We know that people with ID experience negative attitudes as a barrier to social inclusion (Verdonschot, et al., 2009). Despite increased social activities being an indicator of a higher quality of life and well-being (Bramston, et al., 2002), people with ID generally have a lower range of activities (Baker, 2001) than non-disabled people. 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.

Clinicians should pay attention to the impact of attitudes on social inclusion and well-being of people with ID. Perhaps utilising techniques to shift attitudes towards people with ID in a more positive direction should be a part of clinicians' roles. This study has suggested methods which may help to enable this shift including the influence of contact on attitudes.

Research Implications

Future research could use a similar design to the one employed for this study, however with a comparison group of footage not linked to sport. This would allow for the investigation of the impact of watching sport on attitudes and might control for the possible effect of people just completing the measures twice. Although the measures used have good

test-retest reliabilities reported, reflection between measurements, simply a result of completing the measures could have impacted on the results.

Further research should focus on developing an implicit attitude test of people with ID. This would enable more sensitive testing. More research also needs to be conducted into the impact of ID sport in the media on attitudes towards people with ID, to increase the evidence base. Larger sample sizes are needed to enable greater power to detect significant difference. Follow-up data collection and research with different samples should also occur to ascertain whether effects are sustained in the long-term with a wider demographic of participants. 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 line with advances in social psychological understandings of attitudes.

Conclusion

The findings provide evidence that Paralympic (ID) and Olympic footage plus written information seems to change attitudes towards people with ID, at least in the short term. This provides 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. In particular it is important for research in this area keep up to date with advances in social psychology.

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Section C: Critical Appraisal

Joanna Kate Ferrara

Word count: 1916

1 CRITIQUE

1.1 What research skills have you learned and what research abilities have you developed from undertaking this project and what do you think you need to learn further?

At the beginning of the process of finding a research topic I had three different ideas for what I was interested in investigating. This involved completing literature searches on three areas and deciding which option was most viable for a research project to be completed within strict time constraints. I learnt that within research it is important to have a clear focus for a piece of research, but to also be flexible enough to leave behind work that might not be possible, despite having put a lot of time into differing ideas.

Once having found a viable topic, throughout the research project I learnt the importance of thoroughly researching methodologies and the importance of considering the likely analysis before starting. In particular I learnt that assessing for parametric assumptions is not an exact science and faced with differing opinions it is important to consider all consequences before reaching an appropriate opinion.

Within this early process many modifications were made to allow for the project to be adequately powered and to choose reliable and valid measures. I developed skills in comparing and critiquing differing measures and designs. I also learnt the importance of researching qualitatively the area for investigation to aid in this process. I interviewed people who had already watched Paralympic ID sport to gain their experiences of this. This allowed me to choose appropriate measures to capture some of the themes that might have emerged through the quantitative research. I learnt skills in interviewing with open ended questions

and extracting themes from interviews. Although this was not detailed enough to conduct a qualitative analysis, I learnt the importance of differing sources for the design of a project.

I also learnt that other processes take a lot longer than originally planned, for example, to find willing participants and recruit. On reflection I probably thought that this process would take less time than it ended up taking and as a result I had to choose a different participant group. I originally wanted to recruit from the general population, mainly through clubs or societies who met regularly. However after many conversations and no commitment to take part, eventually I decided to use university students. However, this also proved to be a difficulty. I learnt the importance of meeting with many different people to explain what taking part entailed and the importance of face to face contact to be able to recruit participants. In particular, I learnt the power of being proactive and not waiting for people to turn up from poster advertisements. This included a lot of time setting up meetings with heads of departments, presenting to students after lectures and communicating why people might be interested to take part in my project. I gained skills in presentation and communication of research to a range of audiences. I also gained organisational skills in setting up locations to run the research to be as convenient as possible to the participants to encourage recruitment. In hindsight it may have been beneficial to gain some extra funding to recruit a research assistant to help with these initial stages.

This project has led me to become interested in developing the skills I have gained in quantitative research. In particular, I would like to continue to learn through the process of other research projects, different quantitative methodologies and analyses. I would also like to develop skills in qualitative methods, as it was beyond the scope of this project to include

this methodology. Despite it being out of this project's remit it would have been beneficial to ask participants what they thought about the stimuli in order to gain some extra insight into attitude change. I would like to undertake this type of project with a sub-set of participants from the quantitative research to enhance my research skills in this area.

1.2 If you were able to do this project again, what would you do differently and why?

Reflecting on the process, if I was to do this project again I would allow more time to present the project to people other than students and attempt to recruit from the general public. This would allow for greater validity and generalisability of the findings to what might be the result of the Paralympic games in London 2012 on the viewing public. I would also like to recruit a lot more participants to investigate whether power was a significant contributor to non-significant results. It would be interesting whether baseline scores on attitude measures were different for the general public.

I would also attempt to make exposure to the stimuli longer. It would be interesting to investigate whether longer viewing time would result in greater shifts in attitude. In addition, although, less methodologically robust, collecting data at one time point (after exposure to Paralympic stimuli) may have resulted in more efficient data collection. As a result of drop-out a large proportion of the data collected at time one could not be analysed, this was disappointing and resulted in a lot of time lost from collection of data. Also, by having only one data collection point and compared between groups, rather than a mixed design, it may have been possible to collect follow-up data and investigate the sustainability of the effects found.

Further to this, I would consider in more depth the type of comparison group used. Although

Olympic footage was thought to be effective in controlling to some extent extraneous variables such as the effect of watching sport on attitudes it seems from the results that this may not have served as a good enough comparison. Perhaps comparing the experimental group to a different comparison would have allowed the project to ascertain whether it was competitive sport that resulted in attitude change or Paralympic ID sport in particular. Alternatively measuring attitudes toward other stigmatised groups would have made it possible to investigate whether the effect of exposure to the stimuli was also changing attitudes towards stigmatised groups in general.

Therefore, if I was to complete this project again I would consider modifying the design to include a between groups design with different comparison groups and with additional measures. I would also want to collect data on the quality of contact rather than the quantity of contact of people with ID as this was beyond the scope of this research project, however literature searches revealed this to be a key factor in the effect of contact on attitudes.

1.3 Clinically, as a consequence of doing this study, would you do anything differently and why?

There are some important influences that this study has had on me, in terms of my professional development and future clinical work. Firstly, I will now consider wider social issues when working with stigmatised groups. I have learnt that it is possible to change public attitudes towards these groups and that this may be needed alongside individual clinical work. Although I still see the importance of individual clinical work I now more readily think about the role clinicians might take in combating wider social issues that impact on mental health, including negative attitudes and stigma.

Secondly, I have started to consider the role of social inclusion in mental health and the

impact that stigma can have on this. In particular I would like to incorporate into my clinical work more thinking about ways to increase social inclusion and the visibility of stigmatised groups within the media and community, not just 'seeing more people from stigmatised groups' but seeing these groups for what they can do e.g. achieving gold medals rather than what they 'can't do'. I hope that through my clinical work I can bring this thinking into services to impact on mental well-being from a societal as well as individual level.

I have also become interested in the role of sport for people with ID. Throughout this project it was interesting to find out that people with ID are also often excluded from something that might present them in a different way to traditional views of 'incapability'. I would like to make more links with the Paralympic games and in particular to know how clients might be able to become more involved with the organisation and participation in this. It is clear that as a clinician one important role is to continue to influence areas of society that impact on mental health.

I have also learnt the importance in robust research in the advancement of knowledge of mental health related topics. This project has inspired me to continue research within a clinical role, once qualified. I have also learnt the importance of disseminating the findings of research widely through presentations and conferences to a range of audiences in order to incorporate research findings into practice. I have already presented the findings of this research at the BPS annual conference 2012, and through new social media this was disseminated to more than 5000 people across the world. However in future research I will attempt to bring psychological research to people outside of the world of Psychology. It seems important to present findings that might affect social issues to wider audiences, in this case particularly the media.

1.4 If you were to undertake further research in this area what would that research project seek to answer and how would you go about doing it?

If I was to undertake further research in this area I would like to investigate the on-going legacy of the Paralympic games 2012 on people with ID. This would include all aspects of this, not just attitudes. For example, I would be interested in the impact of watching the Paralympic games on people with ID, particularly on self-esteem or sports uptake, or whether people with ID even know that people with ID participate in this event. It might be that a qualitative design could be employed to answer this question. I would attempt to extract themes from the answers people gave. I would expect that people might feel good about themselves and be more likely to participate or try out sports for themselves after watching Paralympic ID level sport, alternatively it might result in people feeling less able to participate due to social comparisons.

Further to this, I would be interested in finding out what changes in terms of the media exposure of people with ID after the Paralympic games 2012. It seems counter-intuitive to present findings that attitude shift or increase uptake in sport occurs as a result of London 2012 if there is little media coverage any way. This could be investigated using longitudinal surveying techniques. I would hypothesise that there would be an increase in positive coverage in the short term but that this would not be sustained.

I would also be interested in developing methods for measuring attitude change towards people with ID. In particular, for research with this group of people to keep up with advances in social psychology, an implicit measure of attitudes needs to be developed and validated. I would like to develop this type of measure to enable wider research on the current implicit attitudes towards people with ID as this is a neglected field of enquiry. I would also like to

think more about the theories that explain the complexity of attitudes and how these might be applied more meaningfully to people with ID to change attitudes more widely in the future.

Section D: Appendices

Joanna Kate Ferrara

Appendix A

Literature search

An initial review of the literature was conducted using Medline, PsychInfo, Pubmed, and ASSIA electronic databases. The following search terms were used: learn\$ disab\$; intellectual\$ disab\$; mental\$ retard\$; mental\$ handicap\$, in combination with, attitud\$; attitud\$ toward\$; attitud\$ chang\$.

The searches were limited to those published in English, and abstracts were read for relevance. In addition to this the grey literature was searched including government websites, in particular the department of health for relevant literature. The reference list of articles were scanned to identify other relevant studies.

Further searches were carried out with search terms: attitud\$; attitud\$ chang\$ combined with, theor\$ and with search terms: attitud\$; attitud\$ change\$ in combination with, stigmatised groups; mental\$ ill\$; disab\$ to capture wider research literature thought relevant to this topic area.

Appendix B

Information sheet about the Paralympics

Information about people with intellectual disabilities

(learning disabilities) participating in Paralympic level sports.

Did you know that the Paralympic Games in 2012 will host people with learning disabilities performing at an elite level of sport?

Here are some facts about 5 of these athletes:

This is Ben Proctor, he is a Paralympian swimmer

Photo removed

At the National Swimming Championships he won all seven of his events and set:

- A world record time of 2:01.56 (Olympic record is currently 1:38.37) in the 200m freestyle.
- British record in the 100m backstroke (1:04.16) (51.94 is the current world record for people without disabilities)
- British record in the 200m Individual Medley (2:16.29) 1.54.10 is the current world record for people without disabilities.

Photo removed

This is Nicholas Boyan. He is a Paralympic swimmer, he currently holds the world record for the 2009 Global Games held in the Czech Republic, winning Gold in the 4 x 100 Medley Relay with a time of 4:26.02 (current world record for people without disabilities is 3:27.28).

Photo removed

This is Abigail Greetham. She is a Paralympic Athlete. In 2007 at the World Athletics Championships in Fortaleza, Brazil she won Silver in the 200m and Bronze in the 4x 400m.

Photo removed

This is Dan Pepper. He is a Paralympic swimmer. In 2010 at the IPC World Championships, Netherlands he won Gold in the 100m Breaststroke, with a time of 01:11.08 (58.58 is the record for people without disabilities) and Gold in the 200m Freestyle, with a time of 02:02.18 (1:42 is the current record for people without disabilities).

Photo removed

This is Craig Rodgie, in Iceland; he won Gold in the 100m backstroke, with a time of 1:06.98 (51.94 is the current record for people without disabilities).

These Athletes will be representing Britain at the Paralympic Games in 2012

Appendix C

Information sheet about the Olympics

Information about Olympic games

Did you know some of the people who will be performing at the Olympic Games in 2012?

Here are some facts about 5 of these athletes:

Photo removed

This is Michael Jamieson, he is an Olympic Swimmer.

At the British Championships he won:

Gold in the 200m Breaststroke with a time of 2:10.42
and Bronze in the 200m individual medley (2:01.48)

Photo removed

This is Kristopher Gilchrist. He is an Olympic swimmer.

He currently holds the British record for the 200m Breaststroke with a time of 2:01.09. He also won Gold in the 2008 World Championships with a time of 2:06.08 in the 200m Breaststroke. He also swam the 100m Breaststroke with a time of 1:01.40 at the British Championships.

Photo removed

This is Natasha Danvers. She is an Olympic Athlete.

In the build up to the Beijing 2008 Olympic Games, Natasha won a bronze medal in the 400m hurdles in a lifetime best of 53.84.

Photo removed

This is Ross Davenport. He is a Olympic swimmer. In the 2010 European Championship he won Silver in the 4x200m freestyle relay with a time of 7:11.63.

Photo removed

This is Rebecca Adlington, she is an Olympic swimmer.

She won two gold medals at the Beijing 2008 Olympic Games, in the 400m and 800m freestyle swimming events.

At the World Swimming Championships 2009, she won bronze in the 4x200m relay and bronze in the 400m freestyle.

Some of these Athletes will be representing Britain at the Olympic Games in 2012.

Appendix D

Correspondence with IPC

Dear Katie,

Thank you for your email. We had a similar request before for Paralympic Games footage of ID athletes and we actually don't have it from Paralympic Games, as broadcast coverage was not very complete at the times that ID athletes could still participate.

However, we do have some footage from 2010 IPC Swimming World Championships in Eindhoven, as ID athletes were allowed to compete there. Would that work for you? I could send you one or two races with ID athletes.

Best
Eva

Appendix E

DA-IAT example screen shot

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Appendix F

Community Living Attitudes Scale- MR

Hi, Katie,

You are welcome to use the scales without charge. I am attaching a manual we produced several years ago, and updated reproducible copies of the CLAS forms, A and B and the short form. The updated versions use the term, "intellectual disabilities" to reflect current usage.

I wish you all the best in your research,

DBH

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Community Living Attitudes Scale-MR

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Appendix G

Balanced Inventory of Desirable Responding

Here it is.....dp

At 02:46 AM 11/05/10, you wrote:

> Dear Professor Paulhus,

>

> I am a clinical psychology trainee at Canterbury Christ Church University,

> England. I will be conducting research into attitude change towards people

> with intellectual disabilities. As part of this I am hoping to use the

> above mentioned scale. Please could I request a copy of this, or could you

> let me know how it might be possible to obtain your scale? Many thanks in

> advance for your help with this.

>

> Yours sincerely

>

> --

> Joanna Kate Parrett (Katie)

> Clinical Psychology

> 2nd year

BIDR Version 6 - Form 40A

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Appendix H

Demographic Questionnaire: **PARTICIPANT INFORMATION SHEET**

PARTICIPANT NUMBER _____ DATE _____

LOCATION _____

DOB _____ AGE _____ GENDER M/F

DO YOU CONSIDER YOURSELF TO HAVE A DISABILITY? _____

HOW MUCH CONTACT OVER YOUR LIFETIME HAVE YOU HAD WITH INDIVIDUALS WITH INTELLECTUAL DISABILITIES

Please tick one box

- Daily
- Weekly
- At least once a month
- Every three months
- Less often

DO YOU PARTICIPATE IN SPORTS _____

IF YES, WHICH SPORTS _____

- HIGHEST LEVEL OF EDUCATION
- SCHOOL
 - COLLEGE
 - UNIVERSITY
 - POSTGRADUATE

- CURRENT EMPLOYMENT STATUS
- EMPLOYED FULL-TIME
 - EMPLOYED PART-TIME
 - UNEMPLOYED
 - HOME-MAKER

IF EMPLOYED PLEASE PROVIDE JOB TITLE:

FEEDBACK REQUEST: DIRECT E-MAIL/MAIL NONE PLEASE CIRCLE

ADDRESS/E-MAIL FOR FEEDBACK (please provide an e-mail address that will be valid until July 2012)

.....
For admin use only

QUESTIONAIRES COMPLETED (please tick)

- | | | | |
|--------|--------------------------|--------|--------------------------|
| Time 1 | | Time 2 | |
| SD | <input type="checkbox"/> | SD | <input type="checkbox"/> |
| AS | <input type="checkbox"/> | AS | <input type="checkbox"/> |

Appendix I

Information sheet

Participant information sheet (25.6.2011)

Study Title

Attitudes and influences on the general public

You have been invited to take part in a research study. Before you decide whether you would like to take part we would like you to understand why the research is being done and what it would involve for you. Please read through the following information sheet to aid you in this decision. Talk to others about the study if you wish. This information sheet tells you the purpose of this study and what will happen to you if you take part. Please ask if there is anything that is not clear.

What is the purpose of the study?

I will be asking you to complete questionnaires about your views on a number of subjects as well as a computer based response time task. This is to add to research in the field of attitudes and to enable predictions to be made as to what affects these attitudes. Further details will be given at the end of the study.

Why have I been chosen?

You have been chosen because you have volunteered to take part, other people have also been selected.

Do I have to take part?

No, you do not have to take part. If you do decide to take part, you will be given this information sheet to keep. I will also ask you to sign a form to say you understand (consent form). If you decide to take part you are still free to stop at any time and without saying why. A decision to stop and say you do not want to be involved at any time, or a decision not to take part, will not affect your involvement in anything else.

What will happen to me if I take part?

I will be asking you some questions about your life, your age etc. You will then be asked to do a computer task for 10 minutes. Then I will give you some questions about your thoughts. There are no right or wrong answers. This will take about 10 minutes.

I will ask people from different groups to answer the same questions and then compare the answers.

On another day the groups will each then watch a video clip, this will take approximately 20 minutes. Afterwards you will be invited to complete another set of questions and a computer task.

After I have collected the answers from all the people happy to take part in the research I will look for patterns in what they say.

Will my taking part in this study be kept confidential?

All information that is collected about you during the research will have your name removed so that no one will know it is you. All the answers will also be kept on a secure computer system, password protected.

What will happen to the results of the research study?

I will send you a copy of a brief report. I also plan to send a report for a publication to consider printing. You will not be named in any report or publication.

Who is organising and funding the research?

This study is being conducted with Canterbury Christ Church University.

Who has reviewed the study?

Canterbury Christ Church University Research Ethics Committee has approved this study on 16th March 2011

For further information please contact:

Joanna Parrett

Jkp8@canterbury.ac.uk

Trainee Clinical Psychologist

Canterbury Christ Church University

Salomons Campus

Broomhill Road

Tunbridge Wells

Kent

TN3 0TG

For complaints please contact:

Professor Paul Camic

Clinical Research Director

01892 507773

Paul.camic@canterbury.ac.uk

Appendix J

Consent form

CONSENT FORM

Site Number:
Study Number:
Participant Number (please use your student ID number):

Title of study: **Attitudes and influences on the general public**

Name of Researcher: **Joanna Parrett**

Please initial box

1. I confirm that I have read and understand the information sheet dated..... for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2. I understand that my participation is voluntary and that **I am free to stop any time without giving any reason.**

3. I agree to take part in the above study.

Name

Date

Signature

Name of Person taking consent

Date

Signature

Appendix K

De-brief sheet

POST STUDY INFORMATION SHEET

The study that you just participated in was to look at whether attitudes of the public towards people with Intellectual Disabilities (ID) change as a result of watching Elite ID athletes participating in sporting events.

Some people watched footage of people with ID participating in Paralympic level sport whilst another group watched a neutral video without people with ID. You were randomly assigned to one of these groups.

This is because the organisers of the Paralympics games state that a legacy of the games will be reduction in negative attitudes towards people with disabilities. It is unclear from the literature whether this is possible. Therefore this study aimed to see whether attitude change is possible with this type of media representation and what predicts change e.g. amount of previous contact, age, gender etc.

We also know that people with ID are discriminated against. It is hoped that this study will add to research into attitude change as well as informing educational mediums to foster acceptance and attitude change.

Why was I not told this at the beginning?

If you knew all the details of the study at the beginning it may have influenced how you responded. It was felt that keeping some information from you would not have led to any harm. However if you have any other questions please do ask us.

Appendix L

Ethics approval letter

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Appendix M

Normality assumptions

Descriptives

			Statistic	Std. Error
Time1 CLAS Em	Mean		4.2612	.05554
	95% Confidence Interval for Mean	Lower Bound	4.1511	
		Upper Bound	4.3714	
	5% Trimmed Mean		4.2630	
	Median		4.2692	
	Variance		.327	
	Std. Deviation		.57177	
	Minimum		2.85	
	Maximum		5.62	
	Range		2.77	
	Interquartile Range		.77	
	Skewness		-.027	.235
	Kurtosis		-.068	.465
Time 1 CLAS Ex	Mean		1.6342	.05913
	95% Confidence Interval for Mean	Lower Bound	1.5169	
		Upper Bound	1.7514	
	5% Trimmed Mean		1.5900	
	Median		1.5000	
	Variance		.371	
	Std. Deviation		.60875	
	Minimum		1.00	
	Maximum		3.38	
	Range		2.38	
	Interquartile Range		.88	
	Skewness		1.017	.235
	Kurtosis		.081	.465
Time 1 CLAS Similarity sub scale	Mean		5.1729	.05390
	95% Confidence Interval for Mean	Lower Bound	5.0660	
		Upper Bound	5.2798	

	5% Trimmed Mean		5.2107	
	Median		5.2500	
	Variance		.308	
	Std. Deviation		.55494	
	Minimum		3.17	
	Maximum		6.00	
	Range		2.83	
	Interquartile Range		.75	
	Skewness		-.988	.235
	Kurtosis		1.139	.465
Time 1 CLAS Total score	Mean		188.7830	1.91828
	95% Confidence Interval for Mean	Lower Bound	184.9794	
		Upper Bound	192.5866	
	5% Trimmed Mean		189.4078	
	Median		192.0000	
	Variance		390.057	
	Std. Deviation		19.74987	
	Minimum		126.00	
	Maximum		229.00	
	Range		103.00	
	Interquartile Range		27.00	
	Skewness		-.557	.235
	Kurtosis		.249	.465
Time 1 D-IAT	Mean		-.4870	.03341
	95% Confidence Interval for Mean	Lower Bound	-.5532	
		Upper Bound	-.4208	
	5% Trimmed Mean		-.4875	
	Median		-.4737	
	Variance		.118	
	Std. Deviation		.34397	
	Minimum		-1.34	
	Maximum		.29	
	Range		1.63	
	Interquartile Range		.41	
	Skewness		-.089	.235
	Kurtosis		-.021	.465
Time 1 BIDR	Mean		12.2925	.50264

	95% Confidence Interval for Mean	Lower Bound	11.2958	
		Upper Bound	13.2891	
	5% Trimmed Mean		12.0713	
	Median		12.0000	
	Variance		26.780	
	Std. Deviation		5.17497	
	Minimum		2.00	
	Maximum		28.00	
	Range		26.00	
	Interquartile Range		7.00	
	Skewness		.608	.235
	Kurtosis		.431	.465
Time 2 D-IAT	Mean		-.3543	.02660
	95% Confidence Interval for Mean	Lower Bound	-.4070	
		Upper Bound	-.3015	
	5% Trimmed Mean		-.3576	
	Median		-.3590	
	Variance		.075	
	Std. Deviation		.27391	
	Minimum		-1.29	
	Maximum		.45	
	Range		1.73	
	Interquartile Range		.28	
	Skewness		.063	.235
	Kurtosis		1.761	.465
Time 2 CLAS Em	Mean		4.3737	.06319
	95% Confidence Interval for Mean	Lower Bound	4.2484	
		Upper Bound	4.4990	
	5% Trimmed Mean		4.3782	
	Median		4.3846	
	Variance		.423	
	Std. Deviation		.65059	
	Minimum		2.23	
	Maximum		5.85	
	Range		3.62	

	Interquartile Range		.73	
	Skewness		-.150	.235
	Kurtosis		.988	.465
Time 2 CLAS Ex	Mean		1.6419	.06033
	95% Confidence Interval for Mean	Lower Bound	1.5223	
		Upper Bound	1.7615	
	5% Trimmed Mean		1.5925	
	Median		1.5000	
	Variance		.386	
	Std. Deviation		.62113	
	Minimum		1.00	
	Maximum		3.38	
	Range		2.38	
	Interquartile Range		.88	
	Skewness		1.084	.235
	Kurtosis		.398	.465
Time 2 CLAS Sheltering sub scale	Mean		2.8774	.07316
	95% Confidence Interval for Mean	Lower Bound	2.7323	
		Upper Bound	3.0224	
	5% Trimmed Mean		2.8970	
	Median		2.9286	
	Variance		.567	
	Std. Deviation		.75320	
	Minimum		1.00	
	Maximum		4.57	
	Range		3.57	
	Interquartile Range		1.14	
	Skewness		-.365	.235
	Kurtosis		.014	.465
Time 2 CLAS Similarity sub scale	Mean		5.2185	.05670
	95% Confidence Interval for Mean	Lower Bound	5.1061	
		Upper Bound	5.3309	
	5% Trimmed Mean		5.2545	

	Median		5.3300	
	Variance		.341	
	Std. Deviation		.58376	
	Minimum		3.25	
	Maximum		6.00	
	Range		2.75	
	Interquartile Range		.85	
	Skewness		-.736	.235
	Kurtosis		.406	.465
Time 2 CLAS Total score	Mean		190.8019	2.05208
	95% Confidence Interval for Mean	Lower Bound	186.7330	
		Upper Bound	194.8708	
	5% Trimmed Mean		191.3826	
	Median		190.0000	
	Variance		446.370	
	Std. Deviation		21.12747	
	Minimum		120.00	
	Maximum		238.00	
	Range		118.00	
	Interquartile Range		26.25	
	Skewness		-.411	.235
	Kurtosis		.626	.465
Time 2 BIDR	Mean		12.3113	.54556
	95% Confidence Interval for Mean	Lower Bound	11.2296	
		Upper Bound	13.3931	
	5% Trimmed Mean		12.0639	
	Median		12.0000	
	Variance		31.550	
	Std. Deviation		5.61692	
	Minimum		1.00	
	Maximum		32.00	
	Range		31.00	
	Interquartile Range		6.00	
	Skewness		.783	.235
	Kurtosis		1.006	0.46

Appendix N

Levenes statistics

Levene's Test of Equality of Error Variances^a

	F	df1	df2	Sig.
Time 1 D-IAT	1.710	1	110	.194
Time 2 D-IAT	.984	1	110	.323

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Group

Within Subjects Design: prepost

Levene's Test of Equality of Error Variances^a

	F	df1	df2	Sig.
Time1 CLAS Em	1.705	1	112	.194
Time 2 CLAS Em	.076	1	112	.784
Time 1 CLAS Ex	.670	1	112	.415
Time 2 CLAS Ex	.543	1	112	.463
Time 1 CLAS Sheltering sub scale	.960	1	112	.329
Time 2 CLAS Sheltering sub scale	.764	1	112	.384
Time 1 CLAS Similarity sub scale	.273	1	112	.602
Time 2 CLAS Similarity sub scale	1.547	1	112	.216
Time 1 CLAS Total score	.500	1	112	.481
Time 2 CLAS Total score	.350	1	112	.555

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Group

Within Subjects Design: measures + prepost + measures * prepost

Appendix O

Chi-square analysis results for T1 demographic variables

	Value	Df	Asymp. Sig. (2-sided)
Gender	0.81	1	0.37
Disability	0.02	1	0.9
Amount of prior contact	6.78	5	0.24
Level of education	4.39	3	0.22
Employment status	7.43	5	0.19

Appendix P

Parametric tests comparing groups at T1 on outcome measures and age

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Age	Equal variances assumed	9.741	.002	-1.754	111	.082	-2.82629	1.61122	-6.01903	.36645
	Equal variances not assumed			-1.794	109.240	.076	-2.82629	1.57505	-5.94791	.29532

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Time 1 D-IAT	Equal variances assumed	1.710	.194	1.269	110	.207	.08097	.06382	-.04551	.20746
	Equal variances not assumed			1.281	109.990	.203	.08097	.06321	-.04429	.20624
Time 1 BIDR	Equal variances assumed	1.820	.180	-.071	108	.944	-.06979	.98901	-2.03017	1.89059
	Equal variances not assumed			-.072	107.182	.943	-.06979	.97236	-1.99735	1.85777

Multivariate Tests^b

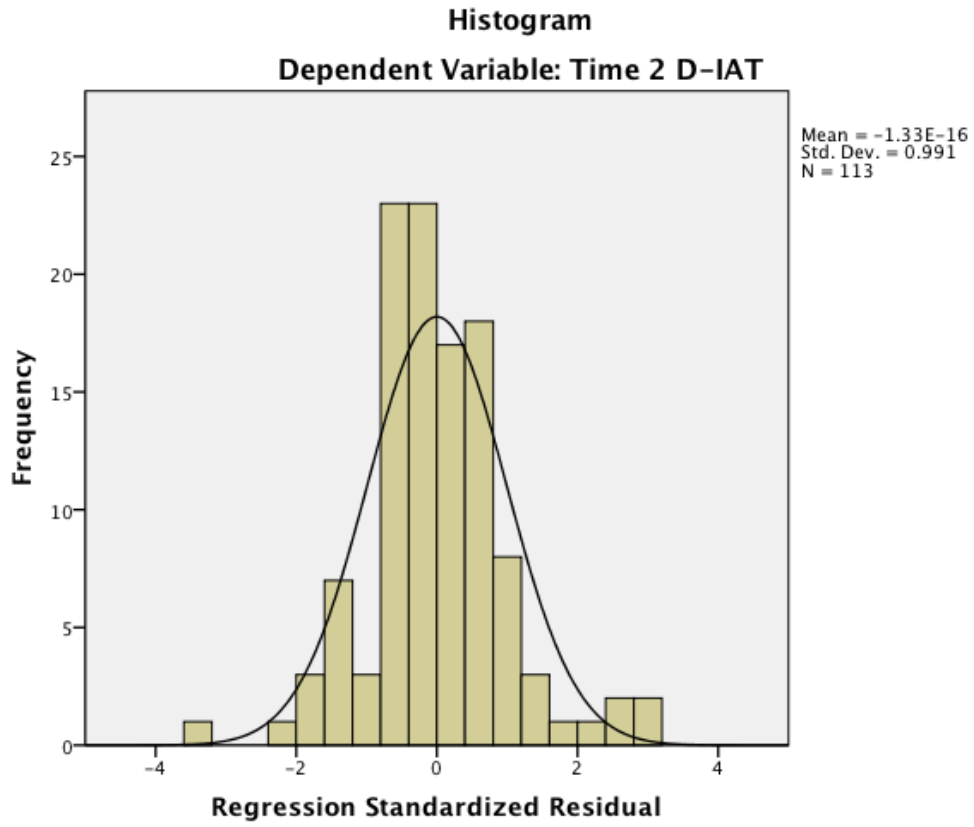
Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.999	19711.7 60 ^a	5.000	108.000	.000
	Wilks' Lambda	.001	19711.7 60 ^a	5.000	108.000	.000
	Hotelling's Trace	912.581	19711.7 60 ^a	5.000	108.000	.000
	Roy's Largest Root	912.581	19711.7 60 ^a	5.000	108.000	.000
Group	Pillai's Trace	.018	.405 ^a	5.000	108.000	.844
	Wilks' Lambda	.982	.405 ^a	5.000	108.000	.844
	Hotelling's Trace	.019	.405 ^a	5.000	108.000	.844
	Roy's Largest Root	.019	.405 ^a	5.000	108.000	.844

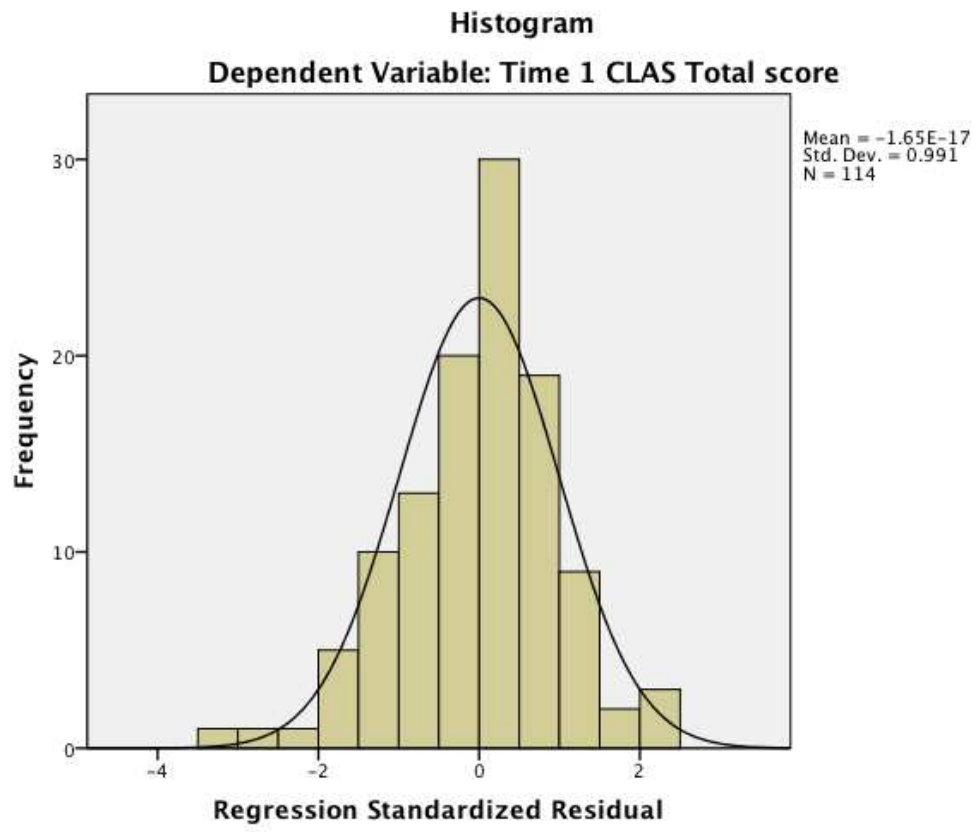
a. Exact statistic

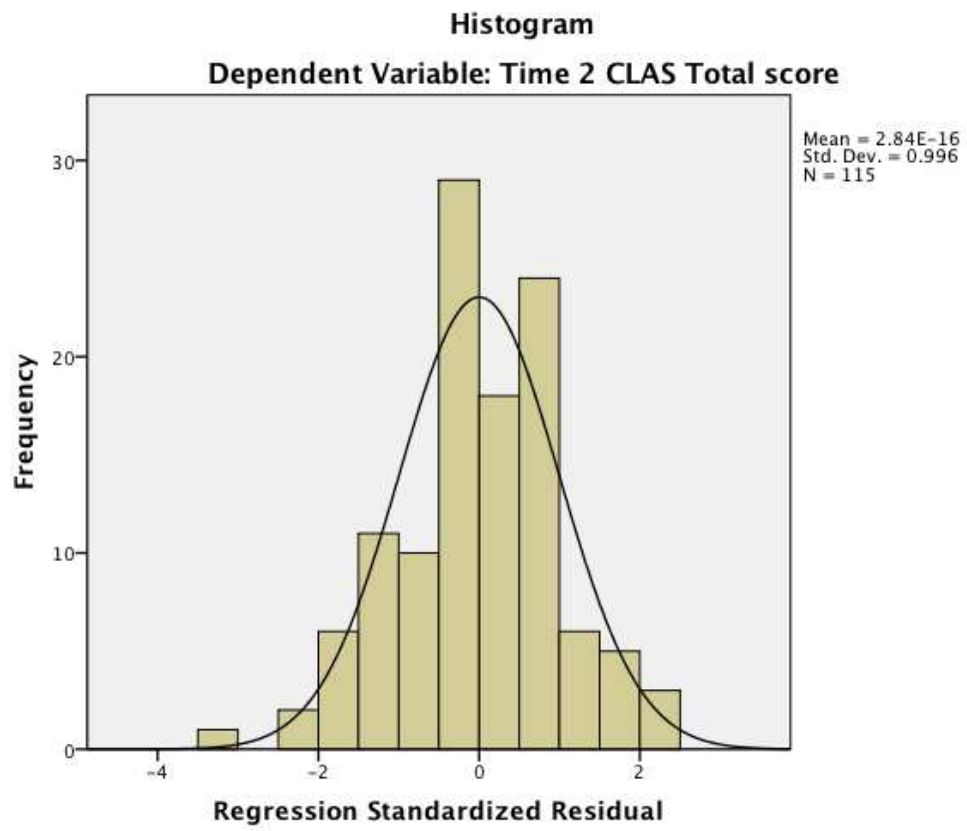
b. Design: Intercept + Group

Appendix Q

Normality plots for standardised residuals







Appendix R

Letter to ethics committee

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Appendix S

Summary report to ethics committee and participants

Summary of research project

Public Attitudes Towards Intellectual Disabilities After Watching Paralympic Performance.

Objectives. Despite there being some changes to the way that people with Intellectual Disabilities (ID) are viewed in society, there is a wealth of literature suggesting that people with ID still have negative attitudes held towards them. Negative attitudes have been found to be a barrier to social inclusion, access to services and employment as well as contributing to poorer mental and physical well-being. One of the aspirations of the organisers of the Paralympic games is 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, 2010, p.3). However the organisers do not set out the pathway to this outcome or present supporting evidence. The aim of this study was to investigate whether footage and information depicting people with ID performing at a Paralympic level of sport can change attitudes towards ID.

Design. A mixed randomised comparison group design was employed comparing two groups; Paralympic level ID sport footage and information and Olympic footage and information on measurements of implicit attitudes towards disability and explicit attitudes towards people with ID pre and post stimuli in each group.

Methods. One hundred and fourteen students at a UK university were administered the measures pre and post the stimuli being presented with an interval of one-three weeks.

Results. Analysis revealed that implicit attitudes significantly changed in a positive direction from T1 to T2. However there was no effect of group. Similarly attitudes of empowerment increased from T1-T2, nearing significance, however there was no effect of group. Prior daily contact with people with ID positively predicted explicit attitudes at T1 and implicit and explicit attitudes at T2. Being female predicted more positive explicit attitudes at T1 but not at T2.

Conclusion. The findings provide evidence that Paralympic (ID) and Olympic footage plus written information does seem to change attitudes towards disabled people and people with ID, at least in the short term. However it does not seem to matter which footage people are exposed to. These findings are discussed and implications for future research into attitude change towards people with ID.

Appendix T

Author guidelines for journal submission

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