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Abstract

Within Australia, divisive debates regarding the processing of asylum seekers have delivered increasing polarisation rather than convergence on an evidence-based, humane approach. In order to investigate the role of motivated reasoning (the idea that our judgment is based on our motivations) with respect to attributions of warmth and competence, 186 participants indicated the extent to which they accepted false beliefs regarding asylum seekers. They read an article rebutting such false beliefs and then reported their attitudes towards the author, and the extent to which the author possessed warmth and competence traits. They then reported whether they agreed with the information in the article before completing a test of recall. Participants who disagreed with the article recalled less accurate information and rated authors significantly lower on warmth and competence. These findings suggest that motivated reasoning plays an important role in the way stereotypes are applied and in the way information is processed.

Key words: asylum seekers, impression formation, motivated reasoning, prejudice, stereotyping

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The issue of asylum seekers is highly topical in both Australian society and elsewhere. Asylum seekers can be held in detention for many years (Pedersen, Kenny, Briskman, & Hoffman, 2008); whilst in detention, there is increased risk of suicide (Dudley, 2003) and of developing or exacerbating mental illnesses (Silove, 2002). Health services received by asylum seekers within detention are low on resources, unhygienic, and in many cases dangerous (Zion, Briskman & Loff, 2009). In fact, the Australian Psychological Society has come out strongly against the present system of mandatory detention of asylum seekers (APS, 2011).

Racist practices and discourse surrounding the issue of asylum seekers have often been portrayed by those engaging in them as being rational and not motivated by prejudice (Augoustinos & Every, 2007). Often so-called evidence used to back up claims and bolster the perceived legitimacy and rationality of prejudiced arguments may be drawn from widely accepted false beliefs about asylum seekers. Much research finds that prejudiced people are more likely to accept the myths as being true (Pedersen, Attwell & Heveli, 2005; Pedersen, Watt & Hansen, 2006; Suhnan, Pedersen & Hartley, in press). These false beliefs, while being factually incorrect, are present in both the media and political rhetoric (Pedersen et al, 2006).

Stereotypic representations of asylum seekers prevalent in government rhetoric have characterised them as dishonest, criminal, and opportunistic (Every & Augoustinos, 2007). This notion of untrustworthy individuals performing illegal acts may contribute to the public perception that asylum seekers are, in some way, a threat to Australian society (Hartley & Pedersen, 2007; Schweitzer, Perkoulidis, Krome, Ludlow,

& Ryan, 2005; Suhnan et al., in press). This 'threat' is also viewed as jeopardising Australian collective identity. For instance, the cultural background of asylum seekers has been perceived as incongruent with Australian culture, and therefore is viewed by many as threatening (Louis, Duck, Terry, Schuller, & Lalonde, 2007; Pedersen, et al., 2006).

The Stereotype Content Model posits that when people are stereotyped, two primary variables are involved: warmth and competence (Cuddy, Fiske & Glick, 2008). Warmth is a construct that describes positive aspects of our social capacities such as "good-natured" or "friendly", while competence describes individual mastery capacities such as "skillful" or "intelligent" (Cuddy et al, 2008, p. 65). The Stereotype Content Model describes stereotypes as being a combination of differing attributions rather than being simply negative or positive (Cuddy, Glick & Xu, 2002). Within this model, status and competition within a society determine the degree to which we evaluate an individual on warmth and competence (Russell & Fiske, 2008). The construct of warmth is the continuum on which an individual determines whether another possesses positive or negative intent (Fiske, Cuddy & Glick, 2007). For instance a person who is friendly or gregarious would be considered warm while a person that did not express any social connectedness would be considered cold. In contrast, competence encompasses the continuum on which an individual determines another's ability to achieve goals (Fiske, et al., 2007). In a survival context these two variables simply question does this person want to harm me and do they have the ability to harm me if they are a threat? Obviously the modern day equivalents of these perceptions typically differ in their expression. For instance, we may meet a doctor who does not appear to be particularly sociable (low

warmth) but we may assume that this person is very intelligent based on his or her profession (high competence). So within modern times a person's competence may be assessed by signifiers of societal success such as their profession. Impecunious people are considered low in competence while the wealthy are viewed as highly competent. This may be due to the conjecture that societal success arises from an individual's capabilities (Cuddy, Norton & Fiske, 2005).

Attributions of warmth and competence have powerful repercussions; for instance, research by Harris and Fiske (2006) indicated that when viewing photographs of individuals classified as both low in competence and low in warmth, participants failed to activate the medial prefrontal cortex. This is an area of the brain associated with empathic responses (Balconi, Bortolotti & Gonzaga, 2011). Evidence suggests that those attributed with low warmth and competence are dehumanised (Harris & Fiske, 2006).

The Stereotype Content Model has been used extensively in order to understand race and gender stereotypes; however, in spite of this, it may be questioned whether perception of a group member's status and competition (and subsequent competence and warmth) may differ as a result of having strategic benefit from perceiving a group member in a certain light. For instance, Kunda and Sinclair (1999) found that when participants were motivated to see a person as possessing certain traits, they applied stereotypes that were necessary for this, while suppressing stereotypes that would get in the way of viewing the person in the desired way. Within an interpersonal context, individuals have access to multiple stereotypes derived from race, gender, profession, age and so on. This is due to a multitude of cues such as appearance, tone of voice,

general demeanour and the general context in which contact with another is made. The individual may benefit from applying or inhibiting certain stereotypes regarding particular people (Kunda & Spencer, 2010).

Once an opinion has been formed, it can be difficult to modify; incongruent or oppositional information can decrease the person's motivation and capacity to absorb and interpret information (Kunda & Sinclair, 1999; Munro & Stansbury, 2009). This motivational effect can be a drive to reach a certain supposition or to confirm a belief or it can be a tendency to seek out the most correct information in order to form an understanding that reflects the perceived reality of the situation (Kunda, 1990). This process may be complicated when an individual views the reality of a situation in a biased way and therefore seeks to support a false reality or incorrect idea; within this process, individuals may remain biased even when they attempt to be objective (Moore, Tanlu & Bazerman, 2010).

The Stereotype Content Model has been applied to research regarding race. For instance Arabic stereotypes have been characterised by a low amount of warmth combined with a medium amount of competence (Fiske, et al. 2002). Middle-Eastern immigrants have been described similarly as "moderate in competence and low in warmth" by American participants (Lee & Fiske, 2006, p. 760).

The strategic application of stereotypes has been documented in relation to prejudice against ethno-racial groups. For instance, individuals may act to gather information in support of a desired view or to inhibit information that is incongruent with a desired view (Kunda & Sinclair, 1999). Sinclair and Kunda (1999) found that when students were commended or disparaged by a black professor in evaluations of

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their ability in a social skills assessment, students activated positive stereotypes when being encouraged such as the doctor stereotype. However, they inhibited the doctor stereotype when they were being negatively evaluated. When being disparaged by the professor they described this professor as being less competent compared to participants who were not disparaged. Within these examples, the content of these stereotypes were directed by motivation to maintain self-esteem. Similarly, research indicates that when an individual identifies strongly with an in-group, members of the in-group that threaten the group identity are judged more severely and more cognitive resources are marshaled towards these judgments (Coull, Yzerbyt, Castano, Paladino & Leemans, 2001). Therefore the more motivation one has to preserve group identity the more intense the defence of such identity. This has been described by previous research as the "black sheep effect" where negative evaluation is directed at an ingroup member when they deviate from behaviours aligned with ingroup identity (Marques, Yzerbyt & Leyens, 1988, p4). Within this effect the derogation of ingroup members is expected to be more severe than that directed at outgroup members (Marques, Yzerbyt & Leyens, 1988). The extent to which a group member is derogated due to this is related to the extent to which a group's members identify with the group. Therefore it is mediated by how motivated an individual is to protect group identity due to the extent to which they link group identity to perception of self or self-esteem.

Just as ingroup identity may be preserved through motivated derogation of those that threaten norms, the extent to which prejudice and false beliefs are expressed may be mediated by motivation. Previous Australian research finds that giving participants in an anti-prejudice intervention accurate information about marginalised groups can both

reduce the reporting of inaccurate information and prejudice (e.g., Pedersen & Barlow, 2008). However, other research finds that simply giving people accurate information does not work; for example, Nyhan & Reifler, 2010). The question needs to be asked – why not? One possible reason why this may be the case is that those who are resistant to the information are not motivated to accept it and therefore do not remember the information.

There is considerable literature supporting the idea that motivational biases affect the ways in which individuals seek, process and remember information (for reviews, see Kunda, 1990; Nickerson, 1998). The retrieval of memories is affected by our motivation to support certain views. For example, Kunda and Sanitioso (1989) found that participants who were told that certain traits were linked to academic achievement later stated that they possessed these traits to a greater degree than others. Other research indicated that desired memories - those that supported the existence of a preferred trait - were more salient or easier to recall (Sanitioso, Fong & Kunda, 1990). Those with low self-esteem are more likely to remember information that may be in line with their own opinions while others who are higher in self esteem may more readily recall incongruent information (Wiersema, Van Harreveld & Van Der Pligt, 2012; Wiersema, Van Der Pligt & Van Harreveld, 2010). This illustrates that motivation to protect already low self-esteem may sensitise recall of information that may bolster self image. Memory appears to work hard in order to confirm concepts when there is motivation for this confirmation.

Gaps in the literature

In short, the literature indicates that motivated reasoning plays an important role in the content of stereotypes and the situations in which stereotypes are applied. Previous research has focused on the way that exemplars of a social group are viewed and how they may be perceived if they breach social norms. For instance, derogation of a group is more likely to be accepted by bystanders if it comes from a member of the target group (Sutton, Elder & Douglas, 2006). However, our research is concerned with the way an individual is societally perceived when they do not belong to the social group they are defending. Groups may not always be stereotyped based on ethnicity or external characteristics alone. Often they are stereotyped as a result of their shared opinion or goal. In the example of asylum seekers they are an extremely diverse group of people and yet they are collectively stereotyped; the aspect that they all share is an intent to seek asylum within Australia. In a similar manner, champions of a cause may be aligned with the social group they seek to protect by their opinion alone. Research indicates that opinion-based group membership is a far better predictor of community action than simply looking at the extent to which an individual identifies with a group (Bliuc, McGarty, Reynolds & Muntele, 2006). The membership of an opinion-based group can provide a mutual point of view enabling focussed group action on divisive issues (Musgrove & McGarty, 2008). As previously mentioned, the issue of asylum seekers within Australia has the tendency to divide people (see Pedersen & Fozdar, 2010).

Overview of the present study

Our research investigates the extent to which motivated reasoning is used in order to discount information that an individual may disagree with. Specifically, this study

utilises a newspaper article discounting false beliefs regarding asylum seekers to Australia. Our research adds to previous research by using media (a newspaper article) that is directly relevant to the group that stereotypes are being formed about. As noted previously, in Australia there is little contact between asylum seekers and the general public; thus, much opinion is formed through contact with the media. To the authors' knowledge, this is the first time the Stereotype Content Model has been used with respect to participant views rather than referring to the views of a reference group. Previously studies have measured stereotype content variables by asking an individual's opinion about how society views a particular group rather than asking the individual for their direct opinion (see Cuddy et al, 2009).

Two hypotheses were put forward. First, it was expected that participants who disagreed with the article would remember less of the article information when compared to those who agreed. This is in line with motivated reasoning research (e.g., Kunda & Sanitioso, 1989). Second, it was hypothesised that participants who disagreed with the article would rate authors lower on competence and lower on warmth. This is in line with research by Kunda & Sinclair (1999) and Russell and Fiske (2008). Warmth derogation would be expected because the person is perceived as a threat to valued concepts, and competence derogation because it is through questioning the legitimacy of the information presented that the claims can be refuted.

Method

Participants

Participants were 74 males and 112 females (186 in total). The mean age was 43 years old (ages ranging from 20-73). They were recruited through the use of SCORED, an acronym for Social and Community On-line Research Database. While anyone above eighteen living within Australia may become a survey contributor, the majority of individuals were highly educated. Most participants (71.6%) were born in Australia followed by the UK or Great Britain (13.7%) following this South Africa (2.7%). Just over half of the sample (53%) reported they supported left-wing politics, with approximately one fifth (19%) reporting that they were neither left nor right wing, just over one quarter (28%) reporting that they held right wing views.

Materials

Several measures were used within the questionnaire in the order in which they were given: false beliefs regarding asylum seekers, warmth and competence attributions, as well as memory retention.

False Beliefs

Participants were presented with ten statements; to each statement participants indicated their response on a seven point scale where high scores indicated a high level of false beliefs. An example of an item is "Most asylum seekers arrive by boat"; this item for instance, while being a commonly held belief within the public is false (Parliament of Australia Library, 2011). The present study incorporated the three false beliefs used by Pedersen, Attwell and Heveli (2005) into a larger ten item scale incorporating more false beliefs based on Suhnan et al (in press). Previous research finds satisfactory reliability for these false belief scales (Pedersen et al., 2005; $\alpha = .73$; Suhnan et al, in press; α . 86). Two items were later removed to increase reliability.

Reliability for the present study was α . 88. See Appendix I for a copy of this new 10-item scale.

Warmth and Competence

The warmth and competence items assessed the degree to which participants perceived that a group possessed these traits. An example of the warmth scale is "How sincere is the article author?" and an example of an item on the competence scale is "How skillful is the article author?" The warmth and competency scale items were used by Cuddy et al (2009); in twenty nations (both collectivist and individualist cultures) it has been found to have reliabilities of $a = .67-.83$ for warmth and $a = .67-.85$ for competency. For the present study, slight alterations to this scale were made; in the original scale, items were posed as a question about society. For example, "as viewed by society, how warm are members of this group?" (see Cuddy et al, 2009), a possible problem with this style of questioning is that those with strong prejudiced views are more likely to display a false consensus effect (Watt & Larkin, 2010). Our study was concerned with the impressions that participants form rather than what they believe others perceive. For this reason questions were posed addressing individuals' attitudes directly. The warmth and competence scales consisted of eight items in total, four measuring warmth and four measuring competence. Each item was scored on a five point scale to which participants indicated a response between one (not at all) and five (extremely) with high scores indicating high warmth or competence. Reliability for the present study was α . 78.

Newspaper Article

Participants were required to read a newspaper article; this article was originally published in the Fremantle Herald with the title Busting Myths (Pedersen & Hoffman, 2010). The name of the newspaper was, however, altered; the name was changed to The Craneview Times (a false newspaper name). This was done so that participants would not identify the newspaper title and make subsequent assumptions about the credibility or political alignment of the information. To increase the realism of this article, a newspaper article emulator was used to maintain the aesthetic structure of a newspaper article. A photograph of an asylum seeker boat being escorted was also added in order to help the article to appear legitimate. The article was 594 words long and addressed ten myths[1].

Agreement with the Author

After reading the newspaper article, participants indicated to what extent they agreed with the information provided. Participants indicated on a five point scale – ranging between 1) not at all, and 5) extremely – to what extent they agreed with the information presented in the article. Those who indicated that they did not agree (points 1 and 2, $n = 21$) formed a 'disagree' group, those who indicated a mid-level response (point 3, $n = 45$) formed an 'ambivalent' group, and those who indicated agreement with the article formed an 'agree' group (points 4 and 5, $n = 115$). Before arranging these groups, the data from five participants were removed from subsequent analysis. These participants indicated that they had previously read the article; therefore, data from these participants had the potential for biases in memory and possible identification of the author.

Recall

The extent to which participants accurately remembered whether information was presented in the article was tested through the use of eight items. These items were presented in the form of statements to which the participant responded whether these concepts appeared in the article. They could respond true, false, or that they were not sure. In an explanatory paragraph above this section, participants were informed that they were not being tested on whether they believed these statements were true or false, but only on whether these ideas appeared in the article. This measure was scored by counting the total number of correct responses in order to look at the total amount of correctly recalled items for each individual. Thus, high scores represented accurate recall. Reliability for the present study was α . 71. While reliability was excellent for most of the scales, this measure scored lower on reliability than the other measures largely because it was a test of recall rather than a scale seeking to measure similar variables.

Procedure

Participants completed the survey online. They first viewed a page containing information about the study. After providing their consent, participants were directed to a page that provided a definition of what an asylum seeker is. Following this, the participant filled out the false beliefs scale. Following this, participants filled out the warmth and competence scales regarding their impression of the author. Participants were then asked about the extent to which they agreed with the information provided.

The final section of the survey allowed participants to display how much they could recall about the content of the article. Participants were then provided with space

to make comments about the study in general before finally answering if they had read the newspaper article prior to participating in this study.

Results

Scale Descriptives

Table 1 outlines the correlations, means, and standard deviations. Correct recall was significantly correlated with less acceptance of false beliefs, the perception that the author was warm and competent, and agreement with the author. Generally, scores on false beliefs were below the midpoint, the average correct recall was 66%, and the authors were seen as moderately competent and warm.

[Insert Table 1 here]

Preparing the data

Before running any inferential analyses, competence and warmth scores were all checked for normality. The Shapiro-Wilk statistic identified a significant violation of the assumption of normality within all scales (competence $p < .001$, warmth $p < .001$). Even though ANOVAs in particular are resilient against moderate violations of normality, the addition of unequal group size and violated homogeneity of variance meant that parametric analysis of variance was deemed inappropriate. Therefore for subsequent analyses non-parametric tests were used. False belief scores were also checked for normality and they violated this assumption (Shapiro-Wilk, $p < .001$) warranting the use of non-parametrics for these data also.

Hypothesis 1: participants who disagreed with the article would remember less of the speech information when compared to those who agree

A Kruskal-Wallis one-way ANOVA was applied to three data sets; participants who agreed (M = 7.17, SD = 1.12), were ambivalent (M = 5.49, SD = 2.32), or disagreed with the author (M = 6.00, SD = 1.64). This indicated that there was a statistically significant difference between the disagreeing group (*Mean Rank* = 66.31), the ambivalent group (*Mean Rank* = 61.99) and the agree group (*Mean Rank* = 106.86), H(corrected for ties) = 31.731, df = 2, N = 181, $p < .001$, Cohen's f = .462. Follow-up analysis using the Mann-Whitney U test identified that mean recall scores were significantly higher in the group that agreed with the information provided (*Mean Rank* = 73.39, n = 115) when compared to the disagree group (*Mean Rank* = 41.74, n = 21), U = 645.50, z = -3.619 (corrected for ties), $p < .001$, two tailed. This effect can be described as medium at r =.31 (see Cohen, 1988). No significant difference was found between the disagree group (*Mean Rank =35.57, n =21*) and the ambivalent group (*Mean Rank* = 32.53, n =45), *U= 429.00, z =-.609* (corrected for ties)*, p=.542,* two tailed. A small effect of r = .07 was recorded (Cohen, 1988).

Hypothesis 2. Participants who disagreed with the article would rate authors lower on competence and warmth

A Kruskal-Wallis ANOVA was applied in order to examine whether there was a significant difference between author competence scores in those who disagreed with the author (M = 2.89, SD = 0.81), were ambivalent (M =3.49, SD = 0.55), or agreed with the author (M = 4.14, SD = 0.57). This indicated a significant difference between the agree group (*Mean Rank* = 112.19) the ambivalent group (*Mean Rank* = 63.39) and the disagreeing group (*Mean Rank* = 34.14), H(corrected for ties) = 57.517, df = 2, N =181, $p < .001$, Cohen's f =.685. A Mann-Whitney U test was subsequently applied in

order to establish whether competence scores differed significantly within the ambivalent ($n = 45$), agree ($n = 115$) and disagree group ($n = 21$). Results identified that the agree group had significantly higher competence scores (Mean Rank = 77.10, n = 115) compared to the disagree group (Mean Rank = 21.43, n = 21), U=219.00, z =-6.058 (corrected for ties), $p < .001$, two tailed. A large effect size of r =.52 was noted.

A Kruskal-Wallis ANOVA was used in order to discern if a significant difference between warmth scores in those who disagreed with the author (*M = 2.61, SD = 0.80)*, were ambivalent (*M = 3.08, SD = 0.60*), or agreed with the author (*M = 3.83, SD = 0.61*) existed. This indicated a significant difference between the agree group (Mean Rank = 113.29) the ambivalent group (Mean Rank = 59.13) and the disagreeing group (Mean Rank = 37.21), H (corrected for ties) = 60.495, *df = 2, N = 181, p < .001*, Cohen's f =.711. Following this a Mann-Whitney U test was used in order to establish which variables differed significantly. Results indicated that warmth scores were significantly higher in the agree group (Mean Rank = 76.76, n = 115) when compared to the disagree group (Mean Rank = 23.29, n =21), *U= 258.00,* z = -5.766 (corrected for ties), *p < .001*, two tailed. This effect was approaching large at *r* = .49.

Discussion

The aim of this research was to investigate whether the extent to which motivated reasoning was used in order to discount information that an individual disagreed with and whether the author of the article would be rated as lower on competence and warmth. Both hypotheses were supported and are discussed in full below.

Finding One: Participants who disagreed with the author remembered less of the article information when compared to those who agreed

One possible explanation of these findings may be that prior knowledge of the issues presented within the article is responsible for the extent to which some participants remembered the information within the article. This argument seems dubious because the recall test was purely about whether the concept had just appeared in the article (not on the existence of the information in general). Therefore, it is unlikely that any prior knowledge would provide such a powerful effect. This is especially the case when it is considered that all participants who had previously read the article were excluded from analysis and the information presented goes against the grain of mainstream media.

Thus, it is much more likely that motivated individuals remember more information when it supports their own opinions. This finding is in line with Sanitioso, et al. (1990) who found that desired memories were more salient and research by Wiersema, Van Harreveld and Van Der Pligt (2012) that indicated that rejection of incongruent information may be related to protection of self-esteem. Ambivalent and disagreeing participants may not have tried as hard to remember article information, and disagreeing participants may also have inhibited information that was not in line with their views.

Our finding that recall of information was lower in participants who disagreed with the article information is in line with previous research by Kunda and Sanitioso (1989) indicating that memory for desired information is enhanced. However, the current findings were not concerned with long term autobiographical memory or concept of self; instead, they focused on recall of recent media information. These findings provide support for theories of motivated reasoning which describe motivation

as biasing judgment in order to arrive at desired conclusions (Kunda, 1990). This information indicates that when we agree with information motivation to affirm this view can increase memory effectiveness to confirm the desired view.

Finding Two. Participants who disagreed with the article rated the author lower on competence and lower on warmth

Warmth and competence were significantly lower in the disagree group when compared with the agree group. This is in line with motivational stereotyping concepts put forward by Kunda & Sinclair (1999) illustrating that variables within stereotypes are activated due to our motivation to do so. Our research differs from Kunda and Sinclair's research, however, because it focuses on the activation of stereotypes in order to discredit a member of an opinion based group, where it is only difference of opinion that separates the derogator from the author rather than demographic features etc. This is an important distinction which also encapsulates the way in which broad groups such as asylum seekers are homogenized by stereotypes, not based on shared demographics but on shared intent or opinion.

Our finding supports arguments by Kunda and Spencer (2003) that describe the traits attributed to others as influenced by the goals of the perceiver. Our findings are also align with the Stereotype Content Model (Cuddy, et al., 2008): it is expected that warmth may vary as a result of the level to which the author threatened the views of the participant (warmth is based on competition) competency is based upon the idea of status, if no motivation effects were present this should have remained stable across agree, ambivalent and disagree groups. However, here there was strategic benefit from perceiving an author as incompetent if the participant disagreed with them.

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In addition to the lowered warmth and competence attributions found within the disagree group, the agree group had significantly higher warmth and competence scores compared to the ambivalent group. Therefore when an author shares or supports the views of the reader a protective effect is activated. Research by Coull et al (2001) provides support for the idea of in-group members being defended against threats to group identity. In the present study, it may be that the reader realises that this is a controversial issue (threat), identifies the author as a member of the in-group, and subsequently views them in a more positive light as a way to combat the threat. Just as research by Harris and Fiske (2006) indicated that those attributed with low competence and warmth are dehumanised, perhaps by feeling less empathy for those who oppose them individuals are better able to defend their views.

Limitations/future research

Further research needs to be applied in order to discern what directs attributions of high warmth and competence and whether it is the activation of an empathic response that aids this protective reaction.

Furthermore we acknowledge the quasi-experimental nature of our study. For example, there are other potential reasons why prejudiced people may have felt that the authors of the article were incompetent. For example, the authors of the article were said to be from a regional newspaper which may have affected some participants' view of their competence. This is an interesting topic for future research.

A further limitation of our study was the over-educated nature of our participants. As many studies have found (e.g., Pedersen & Griffiths, 2012), prejudice levels are linked with lower education. Future research could attempt to replicate the

present study using lower SES participants and then splitting the participants on the basis of those attitudes.

Practical Implications

These findings provide support for motivated reasoning within day to day interaction with the media. The findings indicate that perceptions of warmth and competence vary as a result of agreement with information. The findings explain to some extent why stereotypes and false beliefs are so pervasive (see Pettigrew, 2011, with respect to the persistence of social norms) and a simple increase in cultural diversity has been largely unsuccessful in reducing prejudice. For instance, as evidenced by our study, participants who agree with a certain point of view or with certain information have an increased capacity to recall that information or information that supports it. The concepts described within this article are not common within the Australian public media; the media that people predominantly have contact with typically perpetuates the threatening nature of asylum seekers (Suhnan et al., in press). Therefore, unfortunately within the Australian public, this effect of increased recall for information that one agrees with, may work to perpetuate prejudice rather than act against it.

To avoid the lowering of warmth and competence attributes when an author is disagreed with; firstly, it may be helpful to display information in a balanced manner (to appear as objective as possible) in this way information may not be resisted against so strongly. Research by Wiley (2005) indicates that when an argument is presented followed by a counterargument, bias for information supporting previous views is

reduced. By presenting information in a factual and balanced manner it may be possible to avoid some of the lowering of attributes associated with participant disagreement.

Secondly, anti-prejudice interventions within the community will be most effective if target groups do not already hold strong views towards certain ethnoracial groups. For example, if there is going to be an influx of asylum seekers within a neighbourhood, it is best to dispel myths about this group before this group actually arrives. Indeed, at the time of writing this article a detention centre is opening at Northam, Western Australia. There is a great deal of anxiety in the community about this (see Facebook page "no detention centre in Northam": http://www.facebook.com/pages/No-Detention-Centre-In-Northam/148703125174064). Giving more accurate and balanced information may reduce the tendency to denigrate a group of people; certainly there have been some success in reducing prejudice against asylum seekers in educational settings both with a student population (Pedersen, Paradies, Hartley, & Dunn, 2011) and in the community with older participants (Hartley, Pedersen & Dandy, 2012).

Furthermore, research indicates that those who are educated on a topic are better able to remember arguments both for and against an issue while those with little prior education regarding the topic tend to remember information that confirms their previous views (Wiley, 2005). A final suggestion in relation to anti-prejudice interventions is that they carefully monitor which emotional content is used. As noted previously, Harris and Fiske (2006) indicate that dehumanisation may be at play in attributions of low competence and warmth. A possible way of combating this is to engage empathy. Research by Finlay and Stephan (2000) supports this view indicating that through

eliciting empathy using emotional content, biases against ethnoracial groups can be decreased (also see Pedersen, Walker, Paradies, & Guerin, 2011, on this point).

Past research finds that prejudice against asylum seekers is largely based on the acceptance of myths (e.g., Pedersen et al., 2008) which links with the present study. However, giving prejudiced people information just once may not be effective: there are many ways in which people can keep their previous (hostile) attitudes like denigration of people giving accurate information – which occurred in the present study. This does not mean that correct information should not be given to the Australian community – it means that it must be given more often. People are more likely to accept information if it comes from multiple sources.

In conclusion, in our study motivated reasoning played a major role in the recall of accurate article information and the ratings of the authors' warmth and competence. These findings support motivated reasoning theories that regard motivation as being an important factor in the degree to which information is remembered, and warmth and competence attributes are applied. This research is unique because it deals with attributions of warmth and competence upon the sources of media information commonly perceived by the general public on an important contemporary issue; additionally, it utilises the stereotype content model in a way that specifically addresses the views of the individual rather than views of society as a whole. Furthermore, this research deals with motivated reasoning in the face an oppositional opinion-based group. In this way this research is important because it provides insight into how perception of media sources and warmth and competence attributions are based on motivation. While future research is needed to investigate this topic further and with

different samples and topics, we hope that this research could be used in order to better understand prejudice and resistance to anti-stereotyping information and to subsequently contribute to methods of reducing prejudice.

References

Augoustinos, M. & Every, D. (2007). The language of race and prejudice: A discourse of denial, reason, and liberal-practical politics. *Journal of Language and Social Psychology, 26,* 123-141. DOI: 10.1177/0261927X07300075

Balconi, M., Bortolotti, A. & Gonzaga, L. (2011). Emotional face recognition, EMG response, and empathic behavior. *Neuroscience Research, 71*, 251-259. DOI: doi.org/10.1016/j.neures.2011.07.1833

Bliuc, A., McGarty, C., Reynolds, K. & Muntele, D. (2007). Opinion-based group membership as a predictor of commitment to political action. *European Journal of Social Psychology, 37,* 19-32. DOI: 10.1002/ejsp.334

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Hillsdale, NJ: Erlbaum

Coull, A., Yzerbyt, V., Castano, E., Paladino, P., & Leemans, V. (2001). Protecting the in-group: Motivated allocation of cognitive resources in the presence of threatening in-group members. *Group Processes and Intergroup Relations, 4,* 327-349. DOI: 10.1177/1368430201004004003

Cuddy, A., Fiske, S. & Glick, P. (2008).Warmth and competence as universal dimensions of social perception: The stereotype content model and the bias map. *Advances in Experimental Social Psychology, 40,* 61-149. DOI: 10.1016/S0065-2601(07)00002-0

Cuddy, A., Fiske, S., Kwan, V., Glick, P ., Demoulin, S., Leyens, J., Bond , M., Croizet, J., Ellemers, N., Sleebos, E., Htun, T ., Kim, H., Maio, G., Perry J., Petkova, K., Todorov, V., Rodriguez-Bailon, R., Morales, E., Moya, M., Palacios, M.,

Smith, V., Perez, R., Vala, J. & Ziegler R. (2009). Stereotype content model across cultures: towards universal similarities and some differences. *The British Psychological Society, 48,* 1-33. DOI: 10.1348/014466608X314935

Cuddy, A, Fiske, S. & Glick, P. & Xu, J. (2002). A model of (often mixed) stereotype content: competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology, 82,* 878-902. DOI: 10.1037/0022-3514.82.6.878

Cuddy, A., Norton, M. & Fiske, S. (2005). This old stereotype: The pervasiveness and persistence of the elderly stereotype. *Journal of Social Issues, 61*, 265-283. DOI: 10.1111/j.1540-4560.2005.00405.x

Dudley, M. (2003). Contradictory Australian national policies on self-harm and suicide: The case of asylum seekers in mandatory detention. *Australasian Psychiatry, 11,* 102-108. DOI: 10.1046/j.1038-5282.2003.02023.x

Every, D. & Augoustinos, M. (2007). Constructions of racism in the parliamentary debates on asylum seekers. *Discourse and Society, 18,*411-436. DOI: 10.1177/0957926507077427

Finlay, K. & Stephan, W. (2000). Improving intergroup relations: the effects of empathy on racial attitudes. *Journal of Applied Social Psychology, 30,* 1720-1737. DOI: 10.1111/j.1559-1816.2000.tb02464.x

Fiske, S., Cuddy, A., & Glick, P. (2007). Universal dimensions of social cognition: Warmth and competence. *Trends in cognitive sciences*, *11*(2), 77-83.

Fiske, S., Cuddy, A., Glick, P. & Xu, J. (2002). A model of (often mixed) stereotype content: competence and warmth respectively follow from perceived status and

competition. *Journal of Personality and Social Psychology, 82,* 878-902.DOI: 10.1037//0022-3514.82.6.878

Harris, L., & Fiske, S. (2006). Dehumanizing the lowest of the low: Neuro-imaging responses to extreme outgroups. *Psychological Science, 17*, 847–853. DOI: 10.1111/j.1467-9280.2006.01793.x

Hartley, L., & Pedersen, A. (2007). Asylum seekers: How attributions and emotion affect Australians' views on mandatory detention of 'the other'. *Australian Journal of Psychology, 59(3)*, 119-131. DOI**:** 10.1080/00049530701449455

Hartley, L.K., Pedersen, A., & Dandy, J. (2012). Attitudes towards asylum seekers: An evaluation of a mature-aged community education programme. *Racial Equality Teaching, 30*, 34-38.

Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin, 108,* 480-498. DOI: 10.1037/0033-2909.108.3.480

Kunda, Z, & Sanitioso, R. (1989). Motivated changes in the self-concept. *Journal of Experimental Social Psychology,* 25, 272-285. DOI: 10.1016/0022-1031(89)90023-1

Kunda, Z. & Sinclair, L. (1999). Motivated reasoning with stereotypes: Activation, application, and inhibition. *Psychological Inquiry, 10,* 12-22 DOI**:** 10.1207/s15327965pli1001_2

Kunda, Z. & Spencer, S. (2010). When do stereotypes come to mind and when do they colour judgement? A goal-based theoretical framework for stereotype activation and application. *Psychological Bulletin,129,* 522-544. DOI: 10.1037/0033-2909.129.4.522

Lee, T. & Fiske, S. (2006). Not an outgroup, not yet an ingroup: Immigrants in the

stereotype content model. *International Journal of Intercultural Relations, 30,*

751-768. DOI: 10.1016/j.ijintrel.2006.06.005

Louis, W. R., Duck, J., Terry, D. J., Schuller, R., & Lalonde, R. (2007). Why do citizens

want to keep refugees out? Threats, fairness, and hostile norms in the treatment

of asylum seekers. *European Journal of Social Psychology, 37*, 53-73.

DOI: 10.1002/ejsp.329

Marques, J. Yzerbyt, V. & Leyens, J. (1988). The 'black sheep effect': Extremity of

judgements towards ingroup members as a function of group identification.

European Journal of Social Psychology, 18, 1-16.

Moore, D. A., Tanlu, L. & Bazerman, M. H.(2010). Conflict of interest and the intrusion

of bias. *Judgement and Decision Making, 5,* 37-53.

Munro, G. D. & Stansbury, J. A. (2009). The dark side of self-affirmation: Confirmation

bias and illusory correlation in response to threatening information. *Personality*

and Social Psychology Bulletin, 35, 1143-1153. DOI:

10.1177/0146167209337163

Musgrove, L., & McGarty, C. (2008). Opinion-based group membership as a predictor

of collective emotional responses and support for pro- and anti-war action.

Social Psychology, 39(1), 37-47. DOI: http://dx.doi.org/10.1027/1864-

9335.39.1.37

Nickerson, R.S. (1998). Confirmation Bias: A ubiquitous phenomenon in many guises.

*Review of General Psychology, 2,*175-220. DOI: http://dx.doi.org/10.1037/1089-

2680.2.2.175.

Nyhan, B., & Reifler, J. (2010). When corrections fail: The persistence of political

    misperceptions. *Political Behavior, 32*, 303-330. DOI: 10.1007/s11109-010-

    9112-2

Parliament of Australia Library (2011). *Asylum seekers and refugees: What are the*

    facts? Retrieved from

    http://www.aph.gov.au/library/pubs/BN/sp/AsylumFacts.htm#_Toc280780947

Pedersen, A., Attwell, J. & Heveli, D. (2005). Prediction of negative attitudes towards

    Australian asylum seekers: false beliefs, nationalism, and self-esteem. *Australian*

    Journal of Psychology, 57, 148-160. DOI**:**

    10.1080/00049530500125157

Pedersen, A., & Barlow, F. (2008). Theory to social action: A university based strategy

    targeting prejudice against Aboriginal Australians. *The Australian Psychologist,*

    43, 148-159. DOI**:** 10.1080/00050060802318587

Pedersen, A., & Fozdar, F. (2010). Refugee without refuge: Wasim, Phillip Adams, and

    a nation divided. *Journal of Pacific Rim Psychology, 4*, 7-18. DOI:

    http://dx.doi.org/10.1375/prp.4.1.7

Pedersen, A., & Griffiths, B. (2012). *Prejudice and its relationship to socio-*

    demographic variables over time. Unpublished document, Murdoch University,

    Western Australia.

Pedersen, A. & Hoffman, S. (2010, February, 20). Busting Myths. *Fremantle Herald, p5*.

Pedersen, A., Kenny, M. A., Briskman, L. & Hoffman, S. (2008). Working with Wasim:

    A convergence of community. *The Australian Community Psychologist, 20,* 57-

    72.

Pedersen, A., Paradies, Y., Hartley, L. & Dunn (2011). Bystander anti-prejudice: Cross-

    cultural education, links with positivity towards cultural "outgroups" and

preparedness to speak out. *Journal of Pacific Rim Psychology, 5,* 19-30. DOI:

http://dx.doi.org/10.1375/prp.5.1.19

Pedersen, A., Walker, I., Paradies, Y., & Guerin, B. (2011). How to cook rice:

Ingredients for teaching anti-prejudice. *The Australian Psychologist, 46,* 55-63.

DOI: 10.1111/j.1742-9544.2010.00015.x

Pedersen, A., Watt, S., & Hansen, S. (2006). The role of false beliefs in the community's

and the federal government's attitudes toward Australian asylum seekers.

Australian Journal of Social Issues, 41, 105-124.

Pettigrew, T.F. (2011). Toward sustainable psychological interventions for change.

Peace and Conflict, 17, 179-192. DOI**:** 10.1080/10781919.2010.536758

Russell, A. & Fiske, S. (2008). It's all relative: competition and status drive

interpersonal perception. *European Journal of Psychology, 38,* 1193-1201.

DOI: 10.1002/ejsp.539

Sanitioso, R., Kunda, Z. & Fong, G. (1990). Motivated recruitment of autobiographical

memories. *Journal of Personality and Social Psychology, 59,* 229-241. DOI:

10.1037/0022-3514.59.2.229

Sutton, R., Elder, T., Douglas, K. (2006). Reactions to internal and external criticism of

outgroups: Social convention in the intergroup sensitivity effect. *Personality and

Social Psychology Bulletin, 32,* 563-575. DOI: 10.1177/0146167205282992

Schweitzer, R., Greenslade, J., & Kagee, A. (2007). Coping and resilience in refugees

from the Sudan: A narrative account. *Australian and New Zealand Journal of

Psychiatry, 41*, 282-288. DOI:10.1080/00048670601172780

Silove, D. (2002). The asylum debacle in Australia: a challenge for psychiatry. *Australian and New Zealand Journal of Psychiatry, 36(3)*, 290-296. doi: 10.1046/j.1440-1614.2002.01036.x

Sinclair, L. & Kunda, Z. (1999). Reactions to black professional: Motivated inhibition and activation of conflicting stereotypes. *Attitudes and Social Cognition,77,* 885-904. DOI: 10.1037/0022-3514.77.5.885

Suhnan, A., Pedersen, A., & Hartley, L.K. (in press**).** Prejudice against asylum seekers in Australia: The role of people smugglers, the perception of threat, and acceptance of false beliefs. *The Australian Community Psychologist.*

The Australian Psychological Society Limited (2011). *Joint Select Committee on Australia's Immigration Detention Network.* The Australian Psychological Society Limited: Melbourne, Victoria.

Watt, S.E & Larkin, C. (2010). Prejudiced people perceive more community support for their views: The role of own, media, and peer attitudes in perceived consensus. *Journal of Applied Social Psychology, 40,* 710-741. DOI: 10.1111/j.1559-1816.2010.00594.x

Wiersema, D. V., van Harreveld, F., & van Der Pligt. J. (2012). Shut your eyes and think of something else: Self-esteem and avoidance when dealing with counter-attitudinal information. *Social Cognition, 30*(3), 323-334. DOI: http://dx.doi.org/10.1521/soco.2012.30.3.323

Wiersema, D. V., van Der Pligt. J.., & van Harreveld, F. (2010). Motivated memory: Memory for attitude-relevant information as a function of self-esteem. *Social Cognition, 28*(2), 219-239. DOI: 10.1521/soco.2010.28.2.219

Wiley, J. (2005). A fair and balanced look at the news: what effects memory for

controversial arguments? *Journal of Memory and Language, 53,* 95-109. DOI:

10.1016/j.jml.2005.02.001,

Zion, D., Briskman, L. and Loff, B. (2009). Nursing in asylum seeker detention in

australia: care, rights and witnessing. *Journal of Medical Ethics, 35,* 546-551.

DOI: 10.1136/jme.2009.029827

Footnote [1]. The names of four article authors preceded the article; one white male, one white female, one Arabic male and one Arabic female. However, as there was no effect, we do not include this aspect in the main study but note the results in an effort not to add to the 'file drawer problem'.

Table 1. Correlation matrix and descriptives

	1	2	3	4	5	Mean/SD
1. False beliefs	1.	-.188*	-.322**	-.355**	-.555**	3.28(1.33)
2. Author warmth		1	.388**	.407**	.378**	3.51(0.78)
3. Author competence			1	.760**	.668**	3.83(0.74)
4. Author agreement				1	.651**	3.78(1.05)
5. Correct recall					1.	6.62(1.72)

*significant at .05 level; **significant at .01 level

Appendix I
New False Belief Scale

1. Asylum seekers are queue jumpers
2. There are not that many asylum seekers coming to Australia compared to other Western countries
3. Asylum seekers must be "cashed up" (i.e., be financially well off) to pay people smugglers.
4. Asylum seekers get all sorts of government handouts
5. Asylum seekers are safe when they arrive in Indonesia or Malaysia, so travelling to Australia is unnecessary
6. Only asylum seekers who apply through the right authorities, such as the UN, should be considered genuine
7. Australia takes less asylum seekers than most other Western countries
8. Seeking asylum without authorization from Australian authorities (e.g., boat people) is illegal under Australian law
9. Most asylum seekers arrive by boat
10. Asylum seekers are more likely to be terrorists compared with refugees that come through official channels
11. Giving Temporary Protection Visas, rather than Permanent Protection Visas, will not stop asylum seekers coming to Australia by boat.

Likert scale from (1) strongly disagree to (7) strongly agree.
After recoding, high scores = high acceptance of false beliefs

Note: One item (temporary protection visas, rather than permanent protection visas, will not stop asylum seekers coming to Australia by boat) was not included in the final scale because it lowered reliability.