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A Study Investigating Implicit and Explicit Attitudes Towards Homelessness in Ireland

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Abstract

With the current growing Homeless crisis in Ireland the current study was a quantitative correlational analysis of both Implicit and Explicit measures of attitude and their impact on behaviour towards homeless persons. The study aimed to investigate the differences between both measures of attitude. Implicit attitudes were measured using the Implicit Relational Assessment Procedure (IRAP) (Barnes-Holmes D., et al., 2006) and Explicit attitudes were measured using a Likert-scale measure designed using identical stimuli (word associations) based on the IRAP. This study also aimed to investigate the impact of both measures on Behavioural intentions towards homeless people using a Behavioural Intentions Measure (Hocking & Lawrence, 2000). Results although not significant, were indicative of negative attitudes resulting in a decrease of pro-social behaviour towards homeless people.

Introduction

Homelessness in Ireland is a growing problem. The total amount of homeless cases recorded in Ireland in 2014 was 4,149 (Maphosa, 2017). This figure included those accessing homeless services, awaiting housing with local authority's and rough sleepers. Currently documented figure's stand at 9,825 homeless people (Gove.ie, 2022). This figure only applies to those accessing emergency homeless accommodation such as hotels, hostels, B&B's, guest houses etc. The actual figures of homelessness may be much higher if it included rough sleepers, couch surfers and those renting private accommodation. The number of people accessing homeless accommodation continues to grow (Gov.ie, 2022). A recent homeless report in March 2022 estimated that there are over 7000 adults using homeless accommodation, with over 5000 of those in Dublin alone (Gove.ie, 2022). Over 3000 are

male and the rest female, and 80% of this total are between the ages of 25-64 (Gov.ie, 2022). These figures also don't include children under the age of 18. According to a recent national homeless progress report in March 2022, the number of families living in homeless accommodation in March 2021 was 903, and that number has risen to 1,238 families in March of 2022. Some of those families could be living in these conditions for up to two years (Gov.ie, 2022). The total number of children reported to be living in homeless accommodation stands at 2,811 (Gove.ie, 2022). The majority of the total's given here are in Dublin. The country is busting in homeless capacity and the numbers continue to rise each year. Also considering the Ukrainian crisis, with unprecedented numbers arriving to Ireland fleeing conflict (Gove.ie, 2022). According to a recent report IPAS have sourced over 2,500 hotel rooms for Ukrainians and still pursuing additional capacity in response to the growing numbers of Ukrainian refugees (Gove.ie, 2022). Given the facts and growing figures, it could be inferred that the homeless crisis in Ireland will only continue to grow as time passes. The question of how this may affect both those vulnerable in homelessness and others in our society seems reasonable. Multiple studies attempt to examine how attitudes may affect behavior towards specific outgroups (Bartsch & Klob, 2019), (Batson, et al., 1997), (Chen & Chang, 2020), (Harris & Fiske, 2006). Overall, the search for answers on the topic of attitudes affecting behavior is ongoing.

Attitudes and Their Effects

Research in social psychology suggests that Implicit Attitudes are formed subconsciously and that it's a process of judgments and impression formation in the categorization process (Ackermann, Teichert, & Truang, 2018). This means that humans tend to internally judge and categorize everything they see (Boyd & Bee, 2015). Explicit attitudes

are those we express after we have thought about how to respond to specific stimuli (Vaughan, 2018). Implicit attitudes are those subconsciously learned via our environment, our automatic thought which may impact our behavior (Vaughan, 2018). Much like Relational Frame Theory, its intrinsic to human learning (Lefrancois, 2012). However, people tend to filter their responses to specific stimuli, they may filter behavior and actions for the purpose of self-preservation, social acceptance and to fit in societally (Vaughan, 2018). Sometimes people can be completely unaware of their true beliefs or feelings about a given topic or object (Barnes-Holmes, et al., 2015). This can be become obvious in their behavior, actions, or attitudes towards that stimulus (Barnes-Holmes, et al., 2015). A study in the USA (n = 1,348), found that people had substantial and pervasive bias against two groups of people (uneducated and mentally ill people), prevalent in every society culturally (Phelan, et al., 209). These groups were deemed "less of an asset" and "less normal or whole" by the general population (Phelan, et al., 209). These less than ideologies may very well be prevalent towards other out-groups within society (Phelan, et al., 209). It could be assumed that anyone seen to be living or existing abnormally (such as the homeless), may also be judged societally in this way. The issue of judgement calls for closer inspection. Biological and neurological processes can be automatic (Boyd & Bee, 2015), it may be the case that we can't control these internal survival-based implicit mechanisms.

Automatic Human Responses and Implicit Attitudes

Neurological evidence assessing blood oxygen levels within the brain while perceiving images of different social groups (including extreme outgroups), suggests that areas activated within the brain while looking at pictures of out-groups (homeless), are the insula and amygdala (Harris & Fiske, 2006). These are areas consistent with the emotion

disgust (Harris & Fiske, 2006). Another study of explicit and implicit associations found that, people showed stronger preference to those found to be acceptable and like themselves (Chen & Chang, 2020). Disgust may be an emotion involved in survival, if we see, smell, or taste rotten food we feel disgusted by it and don't eat it as it would be a threat to our health. Some people are genetically more sensitive to disgust than others, as studies have shown that individual differences to disgust reliably predict responses to potential health threats (Clifford & Piston, 2017). This study also highlights that the media often portray the homeless as dirty, unwashed, mentally ill, and rogue. Also given the fact that most homeless adults are male with chronic physical and/or psychiatric disorders / disease and complex social issues (O'Brien, Quinn, Joyce, Bedford, & Crushelle, 2022), its easy to see how *normal* people in society could perceive them as abnormal or threatening. Given the evidence posed in these studies, it may be the case that people, influenced by the media, unknowingly perceive homeless people as a health threat. They may even be unaware of these implicit associations. (Ajzen, 1991) Theory of planned behavior states that intention to perform behavior can be predicted by three things: attitudes toward behavior, subjective norms, and perceived behavioral control. Firstly, given that Implicit attitude is unconscious, an individual may not be able to evaluate their own behavior or performance. Secondly, what's subjectively normal to one person may be abnormal for the next, people are individual (Haslam, Luke, & John, 2017). Although (Ajzen, 1991) attempts to predict how attitude affects behavior, he concluded that the exact nature of these relations is still uncertain. It seems reasonable to further investigate how both Explicit and Implicit attitude affects behavior, especially if behavior is unconsciously negative or stigmatic.

Creating Awareness on Stigma.

Homelessness may come with a stigma which may feel like social rejection for those affected (Hatzenbuehler & Phelan, 2013). Research has suggested that stigma of any kind is

detrimental to both mental and physical health and may also disrupt or impede access to multiple resources (Hatzenbuehler & Phelan, 2013). If indeed those already in a vulnerable position in our society are at risk of further physical and mental health deterioration, then this research urges us to examine the matter further. Awareness on stigma and social rejection with outgroups can only improve our society if it's a case that this does exist within the Irish population. Studies show that personalization can reinforce empathy and promote pro-social outcomes (Bartsch & Klob, 2019), that means when people can relate to another on a personal level, they are more likely to be empathetic towards that person / object. Educating ourselves on the facts is vital. With the growing need for housing, post-Covid financial losses and Ukrainian crisis in Ireland, anyone could find themselves homeless irrespective of their socio-economic/ demographic, or educational status. Also, educating and encouraging our society to be self-aware and more accepting of these out groups me may then reduce any likelihood of judgement, social rejection, stereotyping and stigma and as a result reduce some of the negative effects that homelessness can have on those unfortunate enough to find themselves in this situation. A review of homeless children revealed that homeless children are less likely to be vaccinated and/ or registered with a general practitioner, meaning they have an increased reliance on emergency services for primary healthcare needs (O'Brien, Quinn, Joyce, Bedford, & Crushelle, 2022). This review also found that homeless children had lower acuity presentations, meaning they weren't as perceptive, sharp minded or alert compared to non-homeless children. They also reveal that homelessness in childhood is associated with developmental delay, behavioral issues, poor nutrition, respiratory illnesses, infections, and tooth decay. This is evidence to yet again indicate the damaging and possibly lasting effects that homelessness has on not only neurological development but also physical, emotional, and mental health and well-being. Building awareness within our society seems a rational response to current knowledge and circumstances.

Encouraging Empathic attitudes and Awareness.

The following studies suggest that creating awareness and self-awareness and encouraging empathetic attitudes can help. (Batson, et al., 1997) found that building and inducing empathy toward a stigmatized group member can improve feelings toward the whole group. While (Kang, Gray, & Dovidio, 2014), using an Implicit Association Test (IAT), also found that meditation and self-awareness can decrease implicit bias against homeless people. Given that Implicit bias are presumed to be built over time due to a lifetime of personal experience, it stands to reason that there may well be some bias within our society whether they know it or not. Furthering analysis on this topic is important specifically in Ireland due to lack of research around Implicit attitudes towards homelessness in Ireland (Crowely, 2022) using a cross-sectional design comparing homeless volunteers to nonvolunteers found that exposure to the homeless was associated with more favorable attitudes to homeless people, and that men had less favorable attitudes to the homeless than women. However, (Hocking & Lawrence, 2000) states that those who volunteer to work with the homeless are naturally going to have more favorable attitudes towards homelessness. He also states this type of study may lack internal validity due to selection-bias (Hocking & Lawrence, 2000). Using an experimental design, he attempted to investigate which factors may result in positive attitudes to the homeless (Hocking & Lawrence, 2000). He concluded that prosocial interaction and particularly communicative experiences with homeless people, resulted in positive changes in attitudes, behavior, and behavioral commitment towards the homeless (Hocking & Lawrence, 2000). Although these studies differ in many ways, they both conclude that communication with the homeless population overall seems to have a positive influence on attitudes and in turn a positive impact on behavior towards homelessness and homeless people.

Conclusion

To conclude, homelessness in Ireland is a growing concern, because of this it's important to be aware of any public Implicit prejudice or negative bias to those in this out group. It is also important to be aware as a society of the lasting damaging effects of homelessness, the stigma, social rejection, and exclusions of such circumstances. Interestingly, the effects of exposure, interaction and communication with all outgroups mentioned in this review, all result in pro-social, positive, and helpful attitude change. However, many people in influential positions, for example those in government, may never find themselves in a situation which presents these circumstances. Those who have the power to implement laws and policies may very well benefit from interaction and interpersonal communication with the homeless population, which may then result in positive outcomes societally. Also considering findings by (Crowely, 2022), and the ratio of men to women in government, it seems important that investigating the nature of Implicit and Explicit attitude on behavior is significant. If we could successfully educate the society we live in about the facts, we may then be better able to encourage a compassionate and deeper understanding of the causes and effects of homelessness on our population and ensure positive prosocial attitudes and behavior. The current study Hypothesizes that (1) there may be a difference scores between implicit and explicit attitudes and (2) that negative implicit attitudes would affect behavior towards homeless people in a negative way.

Method/Participant Selection

Participants for the current study, were recruited using convenience sampling, with volunteers being made up of friends, family, and fellow students. The original sample consisted of 30 participants. However, data for only (n=17) was suitable for the final analysis, 9 males (52.94%) and 8 females (47.06%). The age range of participants was 18+. Selection criteria for the study expected all participants to be over the age of 18 years, English speaking, and able to read and write. Participants were also expected to be able to

comprehend and follow instructions, and to be comfortable using a laptop, (pressing specified keys). However, of those who volunteered for the study, only 17 participants were selected for the final analysis (N=17). This was due to some participants being unable to meet the accuracy criteria of (80%), and latency criteria of (2000ms), under time pressure during the Implicit Relational Assessment Procedure (IRAP). Due to the sample size being diminished and the validity being reduced, results should be interpreted with caution.

Materials/ stimuli

A Dell laptop was the apparatus used for the Implicit Relational Assessment Procedure (IRAP) (Barnes-Holmes D., et al., 2006). The researcher also used a design sheet to explain the IRAP (see IRAP Design in appendices), and a pen and paper to keep track of the responding rule in each block (in the case any participant lost track). Materials used where the information sheet, demographics sheet, consent form, a debriefing sheet and two Likert scale self-report measures. Explicit attitudes were measured using a 7-point Likert scale, which was designed using identical stimuli (statements), from the IRAP. Examples of these statements are (Homeless people are clean/unclean, or People with homes are clean/unclean) with response items ranging from (1= strongly disagree, to 7= strongly agree). Behavioural Intentions towards the homeless (willingness to help), were also measured using another 7-point self-report Likert scale (Hocking & Lawrence, 2000). Participants were asked to indicate how likely they would be to engage in the following behaviours. Examples of this would be, how likely would you be to (give clothes to a homeless shelter or donate money to a homeless person) and response options again ranged from (1= strongly disagree, to 7= strongly agree).

Design/Scoring

The current study was a Lab-based quantitative correlational analysis of attitude and behaviour. Investigated were both Implicit and Explicit measures of attitude and their impact on behaviour towards homeless persons. Implicit (IRAP)and Explicit (self-report) measures of attitude and, (self-report) Behavioural intentions were examined. Correlational analysis was used to determine relationships between variables, and to examine any similarities or differences between Implicit and Explicit responses. Multiple regression was used to determine which of the independent predictor variables (PV's): Implicit attitudes and Explicit attitudes was the strongest predictor of the criterion variable (CV) the behavioural intentions scale (Hocking & Lawrence, 2000).

Implicit Attitudes were measured using an Implicit Relational Assessment Procedure (IRAP) (Barnes-Holmes D., et al., 2006), (Barnes-Holmes, et al., 2015). This is a computer based program which measures speed of response (latency-time of 2000ms) and accuracy (80%), while pressing two keys (D for True) or (K for False) on a laptop keyboard when participant is choosing answers. The IRAP design included two labels, (Homeless people are) and (People with Homes are). The two contrasting categories used were (Positive/ Negative), with target words for each label. Positive target words included the words (safe, useful, honest, trustworthy, clean and good). Negative target words included (unsafe, useless, dishonest, untrustworthy, unclean and bad). The IRAP consisted of 7 practice blocks and six test blocks, with four trial tyoes. These trial types were, Homeless negative (HN), Homeless positive (HP), People with homes negative (PN), and People with homes positive (PP).

Participants were prompted on the screen to respond true or false to statements presented and only to respond according to the rule given at the beginning of each test block. Rule A was (please respond as if Homeless people are negative and People with homes are positive) and Rule B was (Please respond as if Homeless people are positive and People with homes are

negative). Rules alternated at the beginning of each block and participants were encouraged to answer as accuratly and as fast as possible. If at any point a participant answered incorrectly, a red X would appear, at which point they would press the correct answer key.

The IRAP gives a D-IRAP mean score for each trial type (overall 4 scores for each participant), to compare participants responses on bias-consistent and bias-inconsistent blocks, if differing from the **test value of 0**. Explicit Attitudes were assessed using the self-report 7-point Likert Scale which was designed based off the stimuli used in the IRAP. In order to compare Implicit and Explicit responses, mean scores were calculated for the four trial types which were also present within the **Explicit Likert** measure. This meant calculating the mean score for questions 1-6 (HN), 7-12(HP), 13-18 (PN) and 19-24 (PP), giving us another (overall 4 scores for each participant). The **nuetral point (test value) was** (4) in the Explicit Likert scale. This was used as the t-test value in a One Sample t-test to compare against the zero scores in the IRAP when assessing similarities or differences in both measures of attitude.

Procedure

After obtaining approval to conduct the study from the Ethics Committee and recruiting volunteers for the study using social media platforms and word of mouth. Participants met with the researcher in a quiet room to conduct the experiment. Participants were asked to turn their phones on silent to limit distractions and read the information sheet (see appendices). The researcher then addressed any questions or concerns the participants had at this point. Participants then read and signed a consent form prior to participation.

Consent forms were stored separately as all data collected was anonymised. Participants were asked to fill out a demographics sheet (see appendices), which included details about their age and gender. Prior to commencement of the IRAP procedure, the experimenter began by

explaining the task to be completed on the laptop (see IRAP Design). Participants were fully informed about the 'game' and alternating rules at each block. The experimenter, using a pen and paper, would keep track of the changing rules at each block in the case that any participant became confused. Participants were encouraged to take a deep breath prior to each trail block in order to reset their focus. Participants were also encouraged to try to 'beat their last score' of accuracy and speed, creating the competitive 'game' element, which the majority seemed to enjoy.

Once the IRAP task was complete participants were next presented with the Explicit measure. This was a 24 item 7-point Likert scale designed using identical stimuli to the IRAP. The researcher gave a brief explanation on the instructions for ticking the box which the participant felt most appropriate for each statement. Some participants had questions about the 'meaning' of certain statements such as 'Homeless people are safe' (explained in the Discussion), the researcher responded by encouraging the participant to answer according to their own interpretation of these words. It is worth noting that the order in which these measures are presented is important. If the Explicit measure were to be presented first, it may potentially impact the automatic responses during the IRAP, as also concluded in a previous study by (Moran, 2015).

The final measure to be completed by the participant was the Behavioural intentions scale (Hocking & Lawrence, 2000). This was a short 8 item, 7-point Likert scale with statements relating to willingness to help or assist Homeless people in some way. The experimenter briefly explained the instructions to tick the box concluding how likely the participant would be to engage in given behaviours. Upon completion of all measures, participants were debriefed. Afterwards, some participants offered their thoughts on the procedure. At this point the experimenter reminded participants of their right to withdraw and it was explained that once they left the room this was no longer possible due to data being

anonymised. Participants were reminded of the helplines, organisations and avenues of support supplied on the debriefing sheet and thanked for their participation in the study. It should be noted that although the study was anonymised, materials such as demographic sheet, explicit and behaviour self-report measures were all linked using a unique ID code for each participant. All materials used in this study can be found in the appendices section.

Preliminary Analysis

Inclusion criteria

Initial analysis included 30 participants over the age of 18. All of whom partook in the IRAP procedure, and the explicit and behavioural intentions measures. However, as participants are expected to perform the IRAP at 80% and above accuracy and at a latency speed of 2000ms or less, 13 participants had to be excluded due to not meeting these criteria. Participants were only retained if their response latency averaged less than 2000ms across 3 rule A / rule B blocks separately. This left a sample size of (n = 17), (47.06%) females (n=8) and (52.94%) males (n-9) non-binary = 0, other = 0. The age range of participants was (18-69).

IRAP: the IRAP is structured to assess the differences in reaction times (latency) between rule A and rule B within trial blocks. The mean scores for participants in each trial type, example: (D_IRAP_TrialType_1_Test_Mean **or** D_IRAP_TrialType_2_Test_Mean), were used to create the four Implicit trial type variables.

Explicit Measure: the explicit measure was created using identical stimulus from the IRAP trial blocks. For example, items 1-6 in the explicit measure were all homeless negative statements, just as in Trial Type 1 in the IRAP were. This pattern in the explicit measure continued throughout, echoing the IRAP trial types. With this structure, items 1-6 (homeless negative statements), 7-12 (homeless positive statements), 13-18 (people with homes negative) and 19-24 (people with homes positive), were all used to calculate a mean score for

each. These meaned scores created the four Explicit trial type variables, which mapped onto the IRAP. This mapping was necessary in order to attempt to find any correlation / similarities between responses in each measure.

Descriptive statistics for Implicit, Explicit and Behavioural mean scores are presented in Table 1 below. Tests of normality indicated that the data was relatively normally distributed as seen in bell curve in histograms, although at times slightly skewed. There was no evidence of outliers in the box plots

Table 1

Descriptive statistics – for IRAP, Explicit and Behavioural measures

Variable	M [95% CI]	SD	Range
Behave_Mean	5.18 [4.74-5.62]	.85	18-69
Explicit_Mean_HN	2.60 [2.09-3.10]	.98	18-69
Explicit_Mean_HP	4.34 [3.86-4.82]	.94	18-69
Explicit_Mean_PN	3.25 [2.81-3.70]	.87	18-69
Explicit_Mean_PP	4.78 [4.43-5.13]	.69	18-69
TT1HN_DIRAP_Mean	23 [43-,04]	.39	18-69
TT2HP_DIRAP_Mean	29 [51-,07]	.43	18-69
TT3PN_DIRAP_Mean	.21 [.0239]	.35	18-69
TT4PP_DIRAP_Mean	.32 [.12-,53]	.40	18-69

Eight one sample t-tests were conducted to investigate correlational patterns in responses. One for each explicit mean score (using 4 as the test value), and one for each IRAP mean score (using 0 as the test value). Scores above the neutral score of 4 indicate agreement with homeless positive/homeless negative/ people with homes positive/ people with homes negative statements. Whereas scores below the neutral score of 4 indicate disagreement. This same rule applies with the IRAP measure, except scores are above/ below 0.

Results of one sample t-tests / Correlations

TT1 Homeless and negative associations:

Explicit response in the Homeless Negative trial, found that participants didn't associate homeless people with negative words. The mean difference value, (M = -1.40) was significantly lower than the population mean, (M = 2.60, SD = .98), t = 5.90, (16), p = < .001).

Implicit response in the Homeless negative trial, found that participants again didn't believe homeless people to be associated with negative words. The mean difference value was (M = -23, SD = .38), t = 2.54, (16), P = .022. The negative mean score here indicating that people said false quicker to homeless negative associations.

TT2 Homeless positive associations:

Explicit response in the Homeless Positive trial, found that participants associated homeless people with positive words. The mean difference value, (M = .34) was lower than the population mean (M = 4.34, SD = .94), although not significant t = 1.51, (16), P = .151.

Implicit response in the Homeless Positive trial found that participants again believed homeless people to be associated with positive words. The mean difference value was (M = -

.30, SD= .43), t = -2.81, (16), P = .013. The negative score here indicating that participants said true quicker to homeless positive associations.

TT3 People with homes Negative associations:

Explicit response in the People with homes negative trial found that participants didn't associate people with homes with negative words. The mean difference value (M = -.75), was significantly lower than the population mean (M = 3.26, SD = .87), t = -3.51, (16), P = .003. Implicit response in the people with homes negative trial found that participants again, didn't believe people with homes to be associated with negative words, mean scores remaining the

same (M = .21, SD = .35) t = 2.39, (16), P = .029. The positive score here indicating that

participants said false quicker to people with homes and negative associations.

TT4 People with homes and Positive associations:

Explicit response in the People with homes Positive trial found that participants agree that people with homes are associated with positive words. The mean difference value (M = .78) significantly different to the population mean of (M = 4.78, SD = .69) t = 4.71, (16), P = .000. The Implicit response in the people with homes trial found that again, participants agree that people with homes are associated with positive words. Mean scores remaining the same (M = .78)

Result of correlational analysis

.32, SD = .40), t = 3.34, (16), P = .004.

Overall, the Implicit and Explicit responses seem to be consistent, meaning that responding for both measures match up. However, it is noted that in TT2 (homeless positive associations), although the explicit responding was not significant t = 1.51, (16), P = .151. The implicit trial was, t = -2.81, (16), P = .013.

In all trials implicit and explicit, it seems that homeless people scored slightly higher for negative associations (explicit) (M = -1.40, p = .001), (implicit) (M = -.23, p = .022) than people with homes and negative associations (explicit) (M = -.75, p = .003), (implicit) (M = .21, p = .029). Also, people with homes scored higher for positive associations explicit: (M = .78, p = >.001), implicit (M = .32, p = .004), than homeless people and positive associations explicit (M = .34, p = .151), implicit (M = .30, p = .013). However, although this could also be indicative of some level of negative bias towards homeless people, the researcher acknowledges that the sample size is very small, and there may be differences here due to sampling error (Pallent, 2020). All results should therefore be read and interpreted with due caution.

Multiple regression

A Multiple regression analysis was performed to compare Implicit and Explicit attitudes and to attempt to determine, which measure of attitude was the best predictor of helpful behaviour towards homeless people. Preliminary analyses were performed to ensure there was no evidence of normality, linearity, and homoscedasticity. The normal P-P plot showed residuals trending in the general direction of the line although there was some slight deviation. However, the scatterplot revealed that no residuals on the y axis were more than 3.3 or less than -3.3. Tolerance and Vif values determined there were no violations of multicollinearity, as all tolerance values were above the level of .10 and all Vif values were less than 10. The Correlations matrix also revealed no Pearson's *r* values to be above .9 which also shows no violation of multicollinearity.

Results of Multiple regression

All Implicit and Explicit mean scored variables were entered into the model as the predictor variables (PV'S) and the Behavioural measure as the Criterion/dependant variable

(CV). The model result shows that 29% of the variance in the criterion variable (Behaviour) is explained by the Predictor variables (Implicit/ Explicit attitudes), and that the model was not found to be statistically significant ($R^2 = .29$, F (8, 8) = .41, $P = > .887^b$). None of the Predictor variables made any unique or significant contribution to the outcome variable (behaviour). Overall, the strongest predictor of the CV (helpful behaviour towards homeless) was Implicit attitudes, specifically (people with homes and negative associations) ($\beta = -.42$, p = .300). The second strongest predictor within the model was Explicit attitudes, specifically (homeless people and negative associations), ($\beta = -.24$, p = .636), see discussion for possible interpretations of this. The nature of both of these relationships were negative, meaning that a (1-point standard deviation) increase in these predictor variables (attitudes), will lead to a decrease in the criterion variable (helpful behaviour towards homeless). The weakest predictors within the model were Implicit (homeless negative associations), ($\beta = .01$, p = .975) and Explicit (people with homes positive associations), ($\beta = -.003$, p = .995). Table 2 below contains statistics for all 8 Predictor variables in the model.

 Table 2

 Table for Predictions of Implicit/ Explicit Attitudes on Helpful Behaviour towards the Homeless.

Variable	\mathbb{R}^2	В	SE	β	t	p
EXP HN	.29	21	.42	24	50	.636
EXP HP	.29	.18	.49	.20	.38	.716
EXP PN	.29	07	.60	08	.38	.905
EXP PP	.29	00	.63	00	05	.975
IMP TT1 HN	.29	.03	.95	.01	.03	.975
	.29	33	1.19	17	28	.787
IMP TT2 HP	.29	-1.02	.92	42	-1.11	.300
IMP TT3 PN	.29	.52	.92	.24	.560	.59
IMP TT4 PP						

Discussion

The aims and objectives of the current study was to investigate the relationship between Implicit and Explicit attitudes and the possible impact that they might have on a person's behaviour towards homeless people. Correlational analysis was conducted using one sample t-tests in an attempt to compare any differences between Implicit responding and self-report Explicit responding in relation to positive/ negative statements about (1) Homeless people and (2) People with homes. Results found that although peoples responses remained the same for both measures, the mean scores seemed to differ. With mean scores indicating that homeless people scored slightly higher for negative word associations than did people with homes. Also, that people with homes scored slightly higher for positive word

associations than did homeless people. A multiple regression analysis then attempted to find which of the dimensions of each measure of attitude might be the best predictor of positive behaviour towards homeless people. The **findings concluded** that the strongest predictor within the model, and the one having most influence on behaviour was Implicit attitude, specifically, people with homes/negative associations ($\beta = -.42$, p = .300). The second strongest predictor was Explicit attitudes and homeless people/negative associations ($\beta = -$.24, p = .636). Both of these relationships were negative in nature, meaning that, as the scores for both predictor variables increase the scores for the criterion variable will decrease. We could interpret this as, (in the case of Implicit), negative implicit attitudes having a negative impact on positive behaviour. Or (in the case of the explicit), the more a person perceives homeless people as negative, the less likely they are to behave in a pro-social manner towards them. The first hypothesis in this study was (1) that the study may reveal some differences between Implicit/ Explicit attitudes, and either positive or negative bias towards homeless people. During the Correlational analysis there was some differences between the means scores of both implicit/ explicit which might be suggestive of slight negative bias towards homeless people. The second hypothesis in the study was that implicit negative bias would encourage negative behaviour towards homeless people. The multiple regression analysis concluded that with both Implicit and Explicit attitudes, negative associations denote a decrease in helpful behaviour towards homeless people.

Although these findings seem to support the researcher's hypothesis, the researcher will **accept the null hypothesis** due to a number of factors. The first, is that the sample size in the final analysis was very small (n=17). The power of a test is dependant on the sample size used (Pallent, 2020), (Stevens, 1996), and this can lead to the study being underpowered as a result. Secondly, the overall model was not found to be statistically significant, and only accounted for 29% of the variance in the criterion variable (R^2 = .29, F (8, 8) =.41, p=

>.887^b). According to (Stevens, 1996), with samples of less than (n= 20), a non-significant result can be due to insufficient power. The researcher suggests that future research in this area should include at least (n= 120) participants (Stevens, 1996) or, according to (Tabachnick & Fidell, 2013)'s formula a sample size of (n= 104) would be sufficient. Due to the sample size in this study being so small and therefore likely underpowered, the researcher accepts the null hypothesis, and concludes also that this may have resulted in difficulty in finding any meaningful result. However, the researcher also appreciates the value of the contribution it has made to understanding how future research can be improved upon.

Critical analysis of this study finds that although this was a lab-based procedure which can increase internal validity, it may not be very externally valid or generalisable in terms of natural or real-world situations (Howitt & Cramer, 2016). For example, the terminology used (people with homes). People may find they typically talk more about homeless people and less about people with homes. The word 'safe', could also be subjective, the interpretation of this word may change depending on the participants perception. For example, please respond as if homeless people are positive, and the target word 'safe' is presented; the participant may perceive this statement as either homeless people are safe within their environment, or homeless people are safe to be around. The target words used also within the IRAP, may be too alike for example, useful/useless or clean / unclean. The IRAP is a fast response task, and at first glance and while under time pressure, it's conceivable that many could mistakenly respond inaccurately. According to (Maloney, Foody, & Murphy, 2020), the choice of relational words used is very relevant to producing a reliable IRAP effect. This could also be an issue for those who are challenged cognitively or comprehensibly. In the case of this study, although participants were recruited from a presumably non-vulnerable population, convenience sampling would make it difficult to detect if any of the participants may have undiagnosed or previously undetected problems in

this area. For example, cognitive issues such as dyslexia may affect a person's accuracy when responding (Siegal, 2006). Age could also be a factor when responding accurately under time pressure due to age related cognitive decline (Mahncke, Bronstone, & Merzenich, 2006), (Deary, et al., 2009), which might also explain why almost half of the original participants didn't meet the latency/ accuracy criteria. However, these issues could be resolved with better planning in terms of relational words chosen.

Contributions and Strengths

The current study aimed to be up to date and inclusive by including non-binary and other as gender options and using the most up to date measure of Implicit attitude. In terms of contributions, it is suggested here that future studies should be aware that using words like motivated/ lazy instead of useful/ useless or clean/ unhygienic instead of clean/ unclean may be less confusing for the participants. Practice may also be beneficial to producing an effective IRAP result (Barnes-Holmes D., et al., 2015). The lack of a significant effect in this study urges further studies to ensure a much larger sample size, as suggested earlier in this paper. It is also suggested that possible colour coding of both positive and negative target words may aid in faster comprehension. For example, negative words are presented in red font, and positive words are presented in green. This may speed up comprehension and therefore produce a better IRAP effect. Colour coding has been used in the IRAP previously (Leech, 2015), however, further research with this technique would also be beneficial if it aids in faster comprehension and reaction time. Lastly, Implicit responding is thought to minimise social desirability responding (Barnes-Holmes D., et al., 2015) and eliminate filtering and self-presentation. However, it is not immune from context effects. It is noted by the researcher that due to convenience sampling of friends, family members and fellow colleagues, it is unknown whether this may have influenced their responses. The sample consisted of people who knew the researcher on a personal level, most of whom were aware

of the researcher's previous history with homelessness. This knowledge may have impacted the responding in some way. Future studies should be aware of this issue.

Implications for this study mean that future research can be guided and enhanced by suggestions noted here. Suggestions such as increasing the sample size, and anonymity of the researcher in relation to context effects. Also, the idea of creatively designing the IRAP trial blocks to aid or speed up comprehension using colour coding and easier and more comprehensive words/ language may be useful in future research. Collectively the research which has been done here and previously on attitudes, stigma and outgroups such as homeless (Crowely, 2022), (Chen & Chang, 2020), (Clifford & Piston, 2017), (Harris & Fiske, 2006), all highlight the importance of understanding how our attitudes shape our behaviour, Attitudes are shaped and formed through our psychosocial interactions and experiences (Allport, 1935), with this in mind, we can see how important such research is in shaping societal decisions laws and policies.

Information sheet

Investigating Implicit and Explicit Attitudes towards the Homeless Population in Ireland

You are invited to take part in a research study. Before you decide, you need to understand why it's being done and what it will involve for you. Please take the time to read the following information carefully. If you have any questions in relation to the study or require more information you may contact me at the email provided below.

I am a third year Psychology Student at the National College of Ireland, and all data and research here will be submitted as part of my final dissertation. Data collected will be submitted to National College of Ireland as part of my final year thesis and may be used at conference presentations or for secondary research purposes. Data will at no point be identifiable to any participant involved.

The aim of this study is to investigate attitudes towards the homeless population in Ireland. All data collected for this study will remain completely anonymous and treated with the strictest confidentiality.

The selection criteria for this study requires participants be aged 18+. All participants should be English speaking and able to read, write and follow instructions. All participants should be confident to use a laptop (pressing the space bar and specified keys).

The procedure will take place in a quiet room with you and the researcher present. You will be asked to fill out two short questionnaires and partake in a computer-based procedure which only involves pressing certain keys to submit your answers. The procedure may take approximately 30-50 minutes to complete, depending on each participant.

Participation in this study is completely voluntary and confidential. Participants may withdraw from the study at anytime throughout the procedure, However, once the procedure ends and you have left the session/ room, you can no longer withdraw your data from the study. This is because the De-identification process will have taken place. This means that once you leave the room, your data will no longer be able to be identified within the data collected.

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All participants will be given a unique ID code which will only be used to link the data

collected from the computer to the questionnaire sheets. This is how each participants data

will be stored, separate from their name and any identifying information.

All data collected will be examined at an aggerate level, meaning at no time will any

participants response be singled out.

There is a slight risk that participants may be affected psychologically due to the nature of the

topic of this study however, the researcher will be happy to address any question or concerns

you may have in relation to this and offer avenues of help where needed.

There is no personal benefit to you for taking part however, all data gathered from the study

may contribute to further research and a clearer understanding of this topic.

Your data will be retained and managed in accordance with the NCI data retention policy.

Signed consent forms will be securely stored separately by the research supervisor. The

anonymized data may be archived on an online data repository and may be used for

secondary data analysis. However, no participants data will be identifiable at any point.

I'd like to thank you for taking the time to read this Information. If you are interested in

taking part in the study, please contact me via email supplied at the bottom of this page.

Researcher: Sheena Matthews

Email: x19144601@student.ncirl.ie

Research Supervisor: Lynn Farrell

Email: lynn.farrell@ncirl.ie

Informed Consent

Investigating Implicit and Explicit Attitudes towards the Homeless Population in Ireland

Please circle your answers and sign below to clarify your consent to participate in this study.

The details of the Study and the nature of such have been clearly explained to me Yes/No

I understand that the Study is designed to further scientific research and that all procedures have been approved by The Ethics Committee at The National College of Ireland

Yes/ No

I understand that I have the right to withdraw from the study (only to the point the session ends), without explanation and without any adverse consequence to me

Yes/ No

I have been made aware by the researcher that upon leaving the room/ session, I can no longer withdraw my data from the study as my data will be de-identified at this point and analysis may have already begun.

Yes/ No

I understand that any information provided by me will be treated with confidentiality, kept anonymous and that all data will be stored in a password protected file which only the researcher can access.

Yes/ No

I understand that all data from this study will be gathered, analyzed, and submitted in a report to the Psychology Department in the School of Business

Yes/ No

I understand that all anonymized data will be retained and may be archived on an	online data
repository which may assist further secondary research in the future	Yes/ No
I am also aware that no participants data will be identifiable at any point hereafter	Yes/ No
I give permission to use de-identified data in further research on Implicit attitudes	
attitudes towards homeless populations	Yes/ No
I have been given the opportunity to ask questions about my participation in the st	•
	Yes/ No
I have read and understood the information sheet and the consent form	Yes/ No
I agree to participate in this study	Yes/ No
Your Name:	
Your signature:	
Signature of Researcher:	
Date:/	

Demographics and Unique ID

Investigating Impli	cit and Explicit A	Attitudes toward	is the Homele	ss Population i	n Ireland
	Par	ticipant ID Nu	mber:		
Please complete the	following demos	graphic inform	ation:		
Your age:					
Please select your ger	nder:				
MaleFemaleNon-binaryOther					

Investigating Implicit and Explicit Attitudes towards the Homeless Population in Ireland

The IRAP Design

Two label statements:

1. Homeless People are

2. People with Homes are

Rule A: please respond as if homeless people are positive and people with homes are negative

Rule B: please respond as if homeless people are negative and people with homes are positive

2 categories consisting of 6 target words in each:

1. Positive words

2. Negative words

Safe

Dangerous

Useful

Useless

Dishonest

Honest

Untrustworthy

Clean

Trustworthy

Unclean

Good

Bad

Four Trial Types

Homeless people are

People with Homes are

Positive word

False

Negative word

True

True

False

Homeless people are

Negative word

Positive word

People with homes are

True False

True False

Investigating Implicit and Explicit Attitudes towards the Homeless Population in Ireland Explicit Measure based on IRAP

Participant ID Number:					

Please tick the box that best describes how much you agree/ disagree with the following statements:

Statements	Strongly	Disagree	Slightly	Neither	Slightly	Agree	Strongly
	Disagree		Disagree	Agree	Agree		Agree
				nor			
				Disagree			
	1	2	3	4	5	6	7
1.Homeless							
People are							
dangerous							
2.Homeless							
People are							
Useless							
3.Homeless							
people are							
Dishonest							
4.Homeless							
people are							
Untrustworthy							
5.Homeless							
people are							
Unclean							
6. Homeless							
people are Bad							
7.Homeless							
people are							
Safe							
8.Homeless							
people are							
Useful							
9.Homeless							
people are							
Honest							
10.Homeless							
people are							
Trustworthy							
Continued	Strongly	Disagree	Slightly	Neither	Slightly	Agree	Strongly
	Disagree		Disagree	Agree	Agree		Agree

	T	T			
			nor		
			Disagree		
11.Homeless					
people are					
Clean					
12.Hoemless					
people are					
Good					
13.People with					
homes are					
Dangerous					
14.People with					
homes are					
Useless					
15.People with					
homes are					
Dishonest					
16.People with					
homes are					
Untrustworthy					
17.People with					
homes are					
Unclean					
18.People with					
homes are Bad					
19.People with					
homes are					
Safe					
20.People with					
homes are					
Useful					
21.People with					
homes are					
Honest					
22.People with					
homes are					
Trustworthy					
23.People with					
homes are					
Clean					
24.People with					
homes are					
Good					
		1			

Behavioral Intentions towards the Homeless

Investigating Implicit and E.	xplicit Attitudes towards the Homeless Population in Ireland
Participant number	(used only to link data on all three measures)

Please indicate how likely you would be to engage in the following behaviors towards homeless people by ticking the appropriate response box

	Strongly	Disagree	Somewhat	neither agree	Somewhat	Agree	Strongly
	disagree		disagree	nor disagree	agree		agree
Give clothes to a							
homeless shelter							
Donate money to							
a homeless person							
Persuade others							
to get involved in							
helping homeless							
people							
Spend a night as a							
volunteer in a							
homeless shelter							
Vote for a							
candidate who							
prioritizes ending							
homelessness							
Volunteer to help							
renovate low-							
income housing to							
aid in housing a							
homeless family							
	Strongly	disagree	Somew	Neither	Somewha	Agree	Strongly
	disagree		hat	agree nor	t agree		agree
			disagre	disagree			
			ed				

Volunteer to				
sponsor a				
homeless person				
and provide				
moral support,				
help find a job				
and a place to live				
Allow a homeless				
person to move in				
with me until this				
individual could				
find a job and a				
place to live				

Debriefing sheet

Investigating Implicit and Explicit Attitudes towards the Homeless Population in Ireland

Researcher: Sheena Matthews

Date: ___/__/___

The aim of this research is to investigate implicit and explicit attitudes in relation to homelessness / homeless people in Ireland. Implicit attitudes are our internal unconscious beliefs which are created by our past experiences throughout our lives. Many of us may be unaware of our implicitly held beliefs and it is human nature to be influenced by everything around us, people, places, experiences and even what we see in the media. Explicit attitudes are beliefs, opinions, and thoughts which we freely express and that which we are aware of.

During this study we aimed to investigate how our Implicit and Explicit attitudes may shape our behaviour towards others within our society. This research may potentially aid in our understanding of how our attitude can impact our behaviour. The study may also reveal how attitudes might contribute to or impact our intentions to help homeless people. It may increase understanding of the relationships between attitudes and actions, or possibly have implications for future interventions for prosocial behaviour.

All information and data collected during this research will remain anonymous and confidential and are examined at an aggregate level, meaning they are analysed as part of a whole and no participants responses will be singled out.

In the Interest of data protection, all data collected in this research will be stored in a password protected file and only accessible to the researchers involved.

Upon completion of analysis, all anonymous data will be submitted to the Psychology Department in the School of Business. Anonymised data may be archived in an online repository to assist in future secondary research. At no time will any Participant be identifiable henceforth.

Participants have the right to withdraw from the research up until the end of the session and before they leave the room. However, on exiting the room you no can no longer withdraw your data from the research, as the data is then de-identified and analysis may have already begun.

I would like to express my sincere thanks for taking the time to participate in this study.

If you have any questions about this study, you may contact me at X19144601@student.ncirl.ie.

Alternatively, you may also receive support and guidance from the following organisations:

If you feel you have been affected personally by this study:

Samaritans: phone 116 123 (call free from any phone)

If you know of someone homeless who may need help/guidance:

Focus Ireland: o1 881 5900

Inner City Helping Homeless: 01 8881804

Peter McVerry Trust homeless services: 01 823 0776

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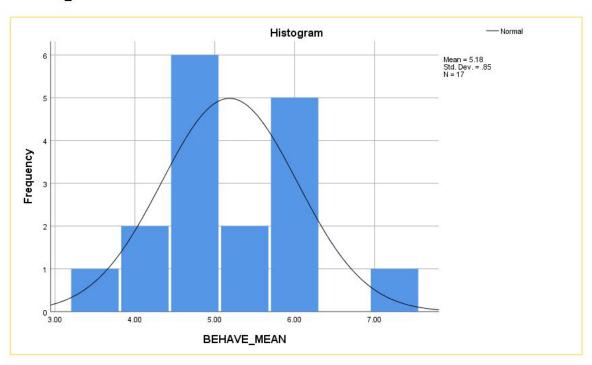
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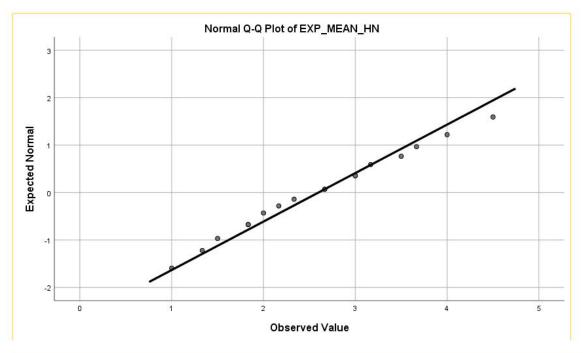
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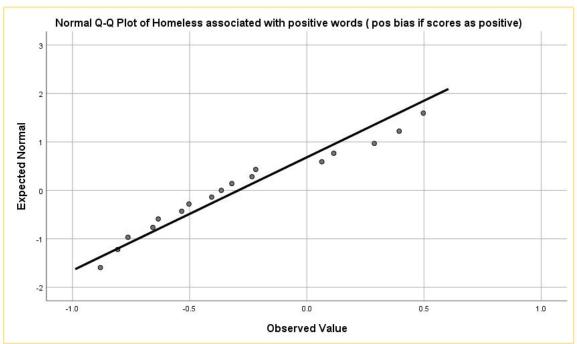
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EXP_MEAN_HN





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T-Test

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
EXP_MEAN_HN	17	2.5980	.97905	.23745

One-Sample Test

Test Value = 4

	t			Mean	95% Confidence Differe	
		df	Sig. (2-tailed)	Difference	Lower	Upper
EXP_MEAN_HN	-5.904	16	.000	-1.40196	-1.9053	8986

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T-Test

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Homeless associated with negative words (neg bias if scores are pos)	17	23229	.376558	.091329

One-Sample Test

Test Value = 0

				Mean	95% Confidence Differe	
	t	df	Sig. (2-tailed)	Difference	Lower	Upper
Homeless associated with negative words (neg bias if scores are pos)	-2.543	16	.022	232294	42590	03869

Correlations

	Mean	Std. Deviation	N
Homeless associated with negative words (neg bias if scores are pos)	23229	.376558	17
Homeless associated with positive words (pos bias if scores as positive)	29200	.428450	17
People with homes associated with negative words(pos scores indicate neg bias of PwH)	.20553	.354240	17
People with Homes associated with positive words (pos scores indicate pos bias)	.32276	.398907	17
EXP_MEAN_HN	2.5980	.97905	17
EXP_MEAN_HP	4.3431	.93814	17
EXP_MEAN_PN	3.2549	.87424	17
EXP_MEAN_PP	4.7843	.68659	17
BEHAVE_MEAN	5.1838	.85023	17

Correlations

	People with	People with
REGRESSION		
DESCRIPTIVES MEAN STDDEV CORR SIG N		
/MISSING PAIRWISE		
/STATISTICS COEFF OUTS CI(95) R ANOVA COLLIN TOL ZPP		
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/METHOD=ENTER TTlHN_DIRAP_MEAN TT2HP_DIRAP_MEAN TT3PN_I	DIRAP_MEAN TT4PP_DIRAP_	MEAN EXP_MEAN_HN
EXP MEAN_HP EXP_MEAN_PN EXP_MEAN_PP		
/SCATTERPLOT=(*ZRESID ,*ZPRED)		
/RESIDUALS NORMPROB(ZRESID).		

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
BEHAVE_MEAN	5.1838	.85023	17
Homeless associated with negative words (neg bias if scores are pos)	23229	.376558	17
Homeless associated with positive words (pos bias if scores as positive)	29200	.428450	17
People with homes associated with negative words(pos scores indicate neg bias of PwH)	.20553	.354240	17
People with Homes associated with positive words (pos scores	.32276	.398907	17

		ımmary ^b		
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.538ª	.290	420	1.01322

- a. Predictors: (Constant), EXP_MEAN_PP, People with homes associated with negative words(pos scores indicate neg bias of PwH), People with Homes associated with positive words (pos scores indicate pos bias), EXP_MEAN_HN, Homeless associated with negative words (neg bias if scores are pos), EXP_MEAN_HP, Homeless associated with positive words (pos bias if scores as positive), EXP_MEAN_PN
- b. Dependent Variable: BEHAVE MEAN

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.353	8	.419	.408	.887 ^b
	Residual	8.213	8	1.027		
	Total	11.566	16			

- a. Dependent Variable: BEHAVE_MEAN
- b. Predictors: (Constant), EXP_MEAN_PP, People with homes associated with negative words(pos scores indicate neg bias of PwH), People with Homes associated with positive words (pos scores indicate pos bias), EXP_MEAN_HN, Homeless associated with negative words (neg bias if scores are pos), EXP_MEAN_HP, Homeless associated with positive words (pos bias if scores as positive), EXP_MEAN_PN

	Coefficients ^a											
	Unstandardized Coefficients		Standardized Coefficients		95.0% Confidence Interval for B		Correlations			Collinearity Statistics		
	В	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	5.142	3.597		1.430	.191	-3.152	13.436					
Homeless associated with negative words (neg bias if scores are pos)	.031	.948	.014	.033	.975	-2.155	2.217	.141	.012	.010	.504	1.986
Homeless associated with positive words (pos bias if scores as positive)	333	1.194	168	279	.787	-3.086	2.420	010	098	083	.245	4.078
People with homes associated with negative words(pos scores indicate neg bias of PwH)	-1.016	.918	423	-1.107	.300	-3.133	1.100	383	364	330	.607	1.647
People with Homes associated with positive words (pos scores indicate pos bias)	.515	.919	.241	.560	.591	-1.604	2.634	.043	.194	.167	.477	2.094
EXP_MEAN_HN	207	.421	239	492	.636	-1.179	.765	219	171	147	.377	2.653
EXP_MEAN_HP	.181	.482	.200	.377	.716	929	1.292	.246	.132	.112	.314	3.184
EXP_MEAN_PN	073	.590	075	124	.905	-1.434	1.288	174	044	037	.241	4.148
EXP_MEAN_PP	004	.629	003	006	.995	-1.454	1.447	.208	002	002	.344	2.908

Collinearity Diagnostics^a