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Why integrated healthcare is harder than we think: How social cognitive processes hinder successful health and care service delivery

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ABSTRACT

With ever increasing demands on the health and social care system, both politicians and technocrats have championed integration between the two sectors as a major element to meet this challenge. Even though verbal and explicit opposition to this policy is scarce, successful and sustainable integration efforts do not tend to be readily observable and wide-spread. The main objective of the goal-directed research in this article is to uncover to what extent social psychological processes play a role in this seeming "disconnect" between what people "say" and what they actually "do." A total of 63 ($n = 63$) participants volunteered to partake in the study. The results indicate that healthcare participants indicate higher levels of social empathy, social perspective taking, and willingness to reach out and share resources as compared with those in social care during the explicit studies. Yet, the implicit data suggest a moderate to strong automatic bias which may well hinder integration efforts. We provide a way forward to increase the validity of these methods and provide recommendations for policy within health and social care integration in England. In addition, these recommendations have wider application to areas concerned with organizational change such as; mergers, acquisitions, and other collaborative working arrangements.

KEYWORDS

organizational integration; cognitive science; implicit association test; social cognition; sustainable transformation

Introduction

When defining organizations as "groups of individuals working to a common goal or purpose," it is beneficial to understand how different groups of such individuals react when organizations are required to "integrate." Indeed, Lewis (1971) wrote that:

> There is always the danger that those who think alike should gravitate together into 'cliques' where they will henceforth encounter opposition only in the emasculated form of rumour that the outsiders say thus and thus. The absent are easily refuted, complacent dogmatism thrives, and differences of opinion are embittered by group hostility. Each group hears not the best, but the worst, that the other groups can say. (p. 131)

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Such behavior, as eloquently described by Lewis, is easily observable in any organization on any given day. Yet, it is detrimental for integration and collaboration efforts in any industry. A series of studies were conducted in England in order to understand whether such attitudes are present within the healthcare and social care industries. In this article, we present two of these studies and discuss how the outcomes relate and suggest practical solutions to mitigate closely held beliefs held by some who may not even be aware they held them. In the first study, we examined explicit social attitudes using traditional research methods, while in the second study we examined implicitly held social attitudes with the use of a customized Implicit Association Test (IAT).

Study one: Explicit social attitudes

As this "concept of organizational integration" is relatively vague and ambiguous the question we tried to answer is; "how does one tease out an individual's preference for collaboration?" We decided to use the empathy scales subsection from the well-established Social Dominance Orientation scales, to use as a proxy for "willingness to collaborate." Essentially, we assume that if a participant indicates a higher level of empathy then they are more likely to collaborate with others. It follows from this assumption that those more likely to collaborate are more likely to want to integrate and/or collaborate with others. It is this logic that has been applied to the creation of this experiment and we anticipate that this will be a contentious point.

Research methods

Social Dominance Orientation scales where used to infer participants' (Ps) tendency to support the concept of "integration" between healthcare and social care services by way of measuring their empathy scores. Mehrabian and Epstein (1972) developed the emotional empathy scale that was adapted for this study. The scales used in this study were subject to an initial factor analysis by Davis (1980) and he reported that the Jöreskog Factor Analysis (oblique rotation; delta = 0) revealed four major factors: fantasy items, perspective-taking items, empathic concern items, and personal distress items. For this study, only items from the perspective-taking scales and empathic concern scales were used. The rationale for this is rather simple in nature; both these sets of items relate directly to in-group and out-group behavioral trends, bias, and prejudice creation. The other two were not included, as they do seem to focus in on introspection and individual behavior rather than social behavior.

Items from the two subscales (empathic concern and perspective taking) were randomly ordered to produce a final item ($n = 23$) version of empathy measure. Ps were requested to respond to each item on a 5-point scale which was anchored by 0 (does not describe me well) to 4 (describes me very well). Total Ps were 63; split between employees in healthcare ($n = 31$) and those employed in social care

Table 1. SDO scale results.

	Measure	All (n = 63)	Healthcare Group (n = 31)		Social Care Group (n = 32)		*t*-Test*
		M	*M*	*SD*	*M*	*SD*	*p*
1	Empathy (+)	2.667	3.032	0.292	2.312	0.320	0.002
2	Empathy (−)	2.206	2.355	0.385	2.062	0.399	*ns*
3	Empathy (+) Action	2.889	3.290	0.271	2.500	0.275	<0.001
4	Empathy (−)	2.079	1.935	0.313	2.219	0.339	*ns*
5	Empathy (−) Medium	2.016	1.806	0.320	2.219	0.363	0.088
6	Empathy (+) High	2.571	3.065	0.299	2.094	0.335	<0.001
7	Empathy Interaction (W)	2.413	2.742	0.211	2.094	0.413	0.006
8	Empathy Interaction (LM)	2.651	3.290	0.254	2.031	0.349	<0.001
9	Empathy Interaction (LA)	2.556	3.290	0.236	1.844	0.344	<0.001
10	Empathy Interaction (LA)	2.206	2.194	0.275	2.219	0.407	*ns*
11	Empathy (+) High Action	2.889	3.258	0.231	2.531	0.352	<0.001
12	Empathy (+) High	2.778	2.774	0.263	2.781	0.386	*ns*
13	Empathy (+) High	2.794	2.806	0.306	2.781	0.286	*ns*
14	Cultural Elitism - Class 1	2.000	1.581	0.338	2.406	0.387	0.002
15	Cultural Elitism - Capability 1	2.476	2.839	0.343	2.125	0.386	0.007
16	Cultural Elitism - Capability 2	2.143	2.258	0.299	2.031	0.310	*ns*
17	Cultural Elitism - Class 2	2.667	2.710	0.344	2.625	0.327	*ns*
18	Cultural Elitism - Capability 3	2.333	2.129	0.351	2.531	0.259	*ns*
19	Empathy Interaction (M)	2.873	3.258	0.211	2.500	0.439	0.003
20	Empathy Interaction (LSh)	2.619	2.968	0.241	2.281	0.391	0.004
21	Empathy Interaction (FSh)	2.810	3.452	0.282	2.188	0.348	<0.001
22	Patient Focus 1	2.556	2.613	0.226	2.500	0.333	*ns*
23	Patient Focus 2	2.825	3.194	0.334	2.469	0.317	0.002
24	Proud of Job	2.873	3.323	0.274	2.438	0.316	<0.001

*t-Test is performed to analyse statistical difference in response between healthcare and social care participants.

($n = 32$). All Ps were employed in the North East of England. Indeed, all healthcare Ps were employed by The Newcastle upon Tyne Hospitals National Health Service (NHS) Foundation Trust and all social care Ps were employed by four different employers in two different settings ($n = 22$ care home; and $n = 10$ other [non-direct care providing employers]). All Ps were assigned to complete both a high- and low-reward scenario of the questions, which were randomly listed on a social dominance orientation empathy scale.

Findings

A summary of the results of the second experiment is shown in Table 1. In order to gain insight into the respondents, a *t*-test was performed with the independent variable chosen as "sector" (i.e., healthcare/social care[1] HC/SC) to understand whether there are statistically significant differences in responses to the empathy scores between HC and SC Ps. The detailed results are shown in Table 2.

In total, 15 out of 24 (62.5%) measures indicated a statistically significant difference between HC and SC Ps. In most cases, where there is a statistically significant *difference* in the way HC Ps responded when compared to their SC counter-parts, HC Ps tend to indicate higher levels of empathy on measures 1 to 6 (block one)

[1] Hereafter, abbreviated to HC for healthcare and SC for social care.

Table 2. Social dominance scales—full data set.

	Variable	(N)	Disagree (1)	Slightly Disagree (2)	Slightly Agree (3)	Agree (4)	Est. Mean* (ALL)	Mean (HC)	Mean (SC)	*t*-Test (p)
Empathic Concern Scales	I often have concerned feelings for a person when he/she is less fortunate than me.	63	3	19	29	12	2.794 (±0.203)	2.806 (±0.306)	2.782 (±0.286)	0.902
			4.76%	30.16%	46.03%	19.05%				
	Sometimes I don't feel very sorry for a person when he/she is having problems.	63	23	21	14	5	3.016 (±0.241)	3.194 (±0.320)	2.844 (±0.368)	0.149
			36.51%	33.33%	22.22%	7.94%				
	When I see a person being taken advantage of, I feel kind of protective towards him/her.	63	2	20	24	17	2.889 (±0.213)	3.290 (±0.271)	2.500 (±0.275)	<0.001**
			3.17%	31.75%	38.10%	26.98%				
	Another person's misfortunes do not usually disturb me a great deal.	63	20	21	19	3	2.921 (±0.228)	3.065 (±0.313)	2.781 (±0.339)	0.216
			31.75%	33.33%	30.16%	4.76%				
	When I see a person being treated unfairly, I sometimes don't feel very much pity for him/her.	63	23	21	14	5	2.016 (±0.241)	1.806 (±0.320)	2.219 (±0.363)	0.088
			36.51%	33.33%	22.22%	7.94%				
	I am often quite touched by things I see happen to other people.	63	11	17	23	12	2.571 (±0.251)	3.065 (±0.299)	2.094 (±0.335)	<0.001**
			17.46%	26.98%	36.51%	19.05%				
	Generally during interactions with other people, I would describe myself as a pretty soft-hearted person.	63	13	19	23	8	2.413 (±0.242)	2.742 (±0.211)	2.094 (±0.413)	0.006**
			20.63%	30.16%	36.51%	12.70%				
Perspective Taking Scales	I try to look at the other side of a disagreement before I make a decision.	63	12	13	23	15	2.651 (±0.264)	3.290 (±0.254)	2.031 (±0.349)	<0.001**
			19.05%	20.63%	36.51%	23.81%				

(*Continued on next page*)

Table 2. (Continued)

	Variable	(N)	Disagree (1)	Slightly Disagree (2)	Slightly Agree (3)	Agree (4)	Est. Mean* (ALL)	Mean (HC)	Mean (SC)	*t*-Test (p)
	I sometimes try to understand other people better by imagining how things look from his/her perspective.	63	17	22	18	6	2.206 (±0.240)	2.194 (±0.275)	2.219 (±0.407)	0.917
			26.98%	34.92%	28.57%	9.52%				
Inverted Perspective Taking Scale	If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.	63	17	22	18	6	2.206 (±0.240)	2.194 (±0.275)	2.219 (±0.407)	0.917
			26.98%	34.92%	28.57%	9.52%				
Perspective Taking Scales	In relationships with other people, I believe that there are two sides to every question and try to look at them both.	63	5	14	27	17	2.889 (±0.227)	3.258 (±0.231)	2.531 (±0.354)	<0.001**
			7.94%	22.22%	42.86%	26.98%				
	When I'm upset with another person, I usually try to "put myself in his/her shoes" for a while.	63	6	16	27	14	2.778 (±0.228)	2.774 (±0.263)	2.781 (±0.386)	0.967
			9.52%	25.40%	42.86%	22.22%				
	Before criticising another person, I try to imagine how I would feel if I were in his/her place.	63	3	19	29	12	2.794 (±0.203)	2.806 (±0.306)	2.781 (±0.286)	0.902
			4.76%	30.16%	46.03%	19.05%				
Social Dominance Orientation Scales (Cultural Elitism and Meritocracy)	Working class people cannot appreciate art and music.	63	29	12	15	7	2.000 (±0.271)	1.581 (±0.338)	2.406 (±0.387)	0.002**
			46.03%	19.05%	23.81%	11.11%				
	The ideal world is run by those most capable.	63	14	18	18	13	2.476 (±0.267)	2.839 (±0.343)	2.125 (±0.386)	0.007**
			22.22%	28.57%	28.57%	20.63%				
	Someone who is very good at their job but treats other people poorly should still get promoted.	63	14	30	15	4	2.143 (±0.211)	2.258 (±0.299)	2.031 (±0.310)	0.287
			22.22%	47.62%	23.81%	6.35%				
	Great art is not for everyone.	63	8	16	28	11	2.667 (±0.231)	2.710 (±0.344)	2.625 (±0.327)	0.717
			12.70%	25.40%	44.44%	17.46%				

	Qualifications not personality should determine who does well in our society.	63	12	22	25	4	2.333 (±0.217)	2.129 (±0.351)	2.531 (±0.259)	0.063
			19.05%	34.92%	39.68%	6.35%				
Perspective Taking Scales	When at work I tend to consider the best course of action by asking colleagues and other staff for their opinion.	63	8	13	21	21	2.873 (±0.258)	3.258 (±0.211)	2.500 (±0.439)	0.003**
			12.70%	20.63%	33.33%	33.33%				
	In situations where several courses of action are possible, I tend to be the main decision maker within a group of people.	63	9	18	24	12	2.619 (±0.241)	2.968 (±0.241)	2.281 (±0.391)	0.004**
			14.29%	28.57%	38.10%	19.05%				
	When someone suggests a course of action I had not thought of I am willing to consider this openly.	63	10	13	19	21	2.810 (±0.271)	3.452 (±0.282)	2.188 (±0.348)	<0.001**
			15.87%	20.63%	30.16%	33.33%				
Patient Focus (Paternalistic Scale and Empathy Scale)	Often when dealing with patients/service users directly I know what is best for them.	63	7	14	25	17	2.825 (±0.242)	3.194 (±0.334)	2.469 (±0.317)	0.002**
			11.11%	22.22%	39.68%	26.98%				
	I always take the account of the human aspect of my job.	63	7	14	25	17	2.825 (±0.242)	3.194 (±0.334)	2.469 (±0.317)	0.002**
			11.11%	22.22%	39.68%	26.98%				
Job Satisfaction	I am proud of the job I do everyday.	63	3	22	18	20	2.873 (±0.233)	3.323 (±0.274)	2.438 (±0.316)	<0.001**
			4.76%	34.92%	28.57%	31.75%				

* At 95% Confidence Level Interval.
** Statistically Significant Difference in Response at 95% Confidence Level Interval
For Neagative Scales inverted scores are calculated.

and 7 to 10 (block two). In the third block of questions, the only significant finding is measure 11 which indicates a strong willingness to take positive empathetic action to help others, with HC Ps' responses indicating significantly higher inclination to reach out to those in need. However, with measures 12 and 13 (that remove the need to take direct action) SC and HC responses are not significantly different. Block four measures Ps' tendency/preference to cultural elitism, and was viewed as controversial by most Ps (as can be evidenced by the verbal reaction to these questions[2]). These scales were deliberately included to provoke a reaction to the concept of "equality."

It is assumed here that responses to these questions provide an indication of a participant's attitude toward both "equality in society" and a "willingness to collaborate." HC Ps show a lower score to measure 14 (cultural class statement "working class people cannot appreciate art") which indicates that a greater preference toward equality in society compared to SC responses. Conversely, SC Ps tend to agree more with this statement, which has interesting implications with reference to the self-categorization and inter-group dynamic studies, especially when taken into the context of "out-group" favoritism which is also indicated in chapter 7 (study four), where this concept and outcome will be discussed in more detail. This finding seems to corroborate the findings from the other studies.

For now, however, it is important to note that the same trend is indicated in the several different studies conducted as part of the overall study. In contrast, the other significant finding in this block is the fact that HC responses indicate a higher level of agreement on measure 15 ("The ideal world is run by those most capable") compared to SC responses. However, when social interaction is introduced to this proposition in measure 16 ("Someone who is very good at their job but treats other people poorly should still get promoted"), both HC and SC responses are similar, with HC responses significantly lower when compared to M15 = 2.839 with M16 = 2.258 with the only difference being the social factor between the two questions.

Finally, block five introduces Ps to the final set of Social Dominance Orientation empathy scales. HC responses in this section tend to confirm earlier findings of higher levels of empathy (measures 19–21), especially when the question indicates that action is required on behalf of the participant. These results suggest that HC Ps are more likely to take positive action within the context of helping other people.

The last two measures (patient focus) statement 22 ("Often when dealing with patients/service users directly I know what is best for them") HC and SC responses are not statistically different (HC = 2.613, SC = 2.500, M = 2.556) indicating that all Ps tend to indicate a slight paternalistic view of patient care. Measure 23 indicates that HC Ps tend to take the "human side" more into account when they do their job, which could be seen as a proxy for a more patient centred care model in HC over SC. However, this single measure should be understood within the context of this study,

[2] All data is available online, including audio/visual recordings of the interviews, at https://dataverse.harvard.edu/dataverse/bmgroen

and should not to be over-generalized, albeit, that this finding is thought-provoking in and of itself.

The last measure (23) in the survey was added to provide insight into "job satisfaction." Here, HC and SC responses are significantly different in the sense that job satisfaction is markedly higher among HC responses when compared to SC responses. Indeed, on a 4-point scale the mean score is 2.873 (across all Ps) with HC Ps indicating a mean score of 3.323 (SD 0.274) compared to SC Ps that indicated a mean score of 2.438 (SD 0.316). It is clear that SC Ps indicate to have a much lower job satisfaction when compared to HC Ps.

In general, HC Ps indicate a stronger level of empathy, both when interaction is required and when it is not, in addition they also report a lower level of cultural elitism. Nonetheless, Ps from both sectors are approximately as patient focussed, value equality in similar ways and show a similar willingness to help those that are in need of help.

Study two: Implicit social attitudes

Generally, explicit attitudes come to the fore of our thoughts only when we are confronted with an object or issue; this is when one becomes aware of those attitudes. However, sometimes it is not just this attitude that is brought to mind, indeed other associated attitudes play a (at times substantial) role, this insight is what social psychologists have found during several studies in recent years. (Greenwald and Hamilton Krieger, 2006) provide a useful guide:

> A belief is explicit if it is consciously endorsed. An intention to act is conscious if the actor is aware of taking an action for a particular reason […] In contrast, the science of implicit cognition suggests that actors do not always have conscious, intentional control over the process of social perception, impression formation, and judgement that motivate their actions. (p. 946)

Most significantly such a phenomenon is referred to as "implicit cognition." Creating this implicit–explicit distinction in the way human memory operates (see Roediger [1990] and Schacter, Bowers, and Booker [1989] for a more detailed discussion). The most guiding principles for this study came from Greenwald and Banaji (1995) who proposed a more general distinction for implicit cognition by defining an implicit construct as "the introspectively unidentified (or inaccurately identified) trace of past experience that mediates *R*" where they refer to *R* as the "category of responses that are assumed to be influenced by the construct in question." In addition, Greenwald, McGhee, and Schwartz (1998) argued that this general definition could be applied to some of social psychology's most central tenets; attitudes, stereotypes, and self-esteem. Furthermore, they noted that implicit cognition could reveal associative information that individuals were either unwilling or unable to report. Therefore, they suggest that implicit cognition could reveal traces of past experience that individuals may explicitly reject because it conflicts with values and or beliefs, or may avoid revealing because the expression could

have negative social consequences. Moreover, "implicit cognition can reveal information that is not available to introspective access even if individuals were motivated to retrieve and express it" (Wilson, Lindsey, and Schooler, 2000). This is directly pertinent to the subject at hand. As the previous explicit study has shown clear differences, it did not reveal reasons why successful integration between organisations and the required constructive collaboration between professions seems to be hard to sustain. This study was designed to understand whether any implicit barriers exist which would, at least partly, provide an explanation.

Research methods

The IAT (Greenwald et al., 1998) has, since its initial publication, been applied in various academic disciplines such as social psychology, cognitive psychology (Fazio and Olson, 2003), clinical psychology, developmental psychology (Baron and Banaji, 2006), neuro-sciences (Phelps et al., 2000), and health psychology (Teachman, Gapinski, Brownell, Rawlins, and Jeyaram, 2003). As a general introduction, the IAT is a method for indirectly measuring the strength of associations among concepts. The IAT task requires sorting of stimulus exemplars from four concepts using just two response options. A summary of the stimuli used in this study is shown in Table 3. Each of these response options is assigned to two of the concepts. The logic that underpins the IAT is that this sorting task should be easier when the two concepts that share a response are strongly associated than when they are weakly associated.

Table 4 shows a sequence of blocks in the IAT measuring HC/SC bias evaluations.

The critical phases of the IAT involve simultaneous sorting of stimuli that represent four concepts (HC, SC, positive, negative) with two response options. In one critical phase (B3 and B4 in the above table), items representing HC and positive (e.g., HC and concepts such as; good, outstanding, brilliant) receive one response, and items representing the concepts SC and negative (e.g., SC and words such as bad, poor, dreadful) receive the alternate response.

In the second critical phase (B6 and B7 in this case), items representing the concepts SC and positive are sorted with one response and items representing HC and negative are sorted with the alternative response. For Ps who possess stronger associations of positive evaluation with SC compared to HC the second sorting task is anticipated to be much more straightforward than the first one. According to Nosek, Greenwald, and Banaji (2007) "task confusion can be reduced by providing multiple cues for identifying the relevant nominal feature of any given stimuli, so that items clearly represent one and only one of the four categories." They note, for example, confounds between dimensions should be avoided and quote Steffens and Plewe (2001) as an example where the study was unsuccessful because the category distinctiveness was not salient enough for Ps to distinguish one over the other.

For the study at hand, using "industry" (i.e., related to either HC or SC sectors) positive and negative items such as "brilliant" or "poor" could reduce confusion

Table 3. Constructs/stimuli used in IAT.

		CONSTRUCTS						
	CATEGORY	1	2	3	4	5	6	7
1	HEALTHCARE	DOCTOR	HOSPITAL	SURGEON	MEDICINE	PATIENT	CLINICAL CARE	NHS
2	SOCIAL CARE	CARE HOME	COUNCIL	NON-MEDICAL	PRIVATE CARE	SOCIAL WORKER	CARER	RESIDENTIAL CARE
3	POSITIVE WORDS	GREAT	FANTASTIC	OUTSTANDING	BRILLIANT	SUPERB	EXCEPTIONAL	EXCELLENT
4	NEGATIVE WORDS	POOR	BAD	TERRIBLE	DREADFUL	MEDIOCRE	INFERIOR	AWFUL

Table 4. Assessment block sequence—IAT HC&SC.

Block	No. Trials	Items assigned to left key response	Items assigned to right key response
B1	20	HC Concepts	SC Concepts
B2	20	Positive Concepts	Negative Concepts
B3	20	HC Concepts + Positive Concepts	SC Concepts + Negative Concepts
B4	40	HC Concepts + Positive Concepts	SC Concepts + Negative Concepts
B5	40	SC Concepts	HC Concepts
B6	20	SC Concepts + Positive Concepts	HC Concepts + Negative Concepts
B7	40	SC Concepts + Positive Concepts	HC Concepts + Negative Concepts

about whether to categorise the items on the basis of sector or evaluation. Therefore, a simple list of constructs directly associated with either HC or SC was carefully consulted upon with relevant individuals, therefore, limiting "sorting confusion." Indeed, during the eventual study none of the Ps reported any confusion about the task which they faced, albeit, some did state that the task was "hard."

In the implicit test, Ps will see items that represent HC, SC, positive words, and negative words as previously mentioned. As each item appears, Ps will be asked to make responses on the left or right side of the screen as quickly as possible.

Findings

Table 5 provides an overview of the results of the IAT as conducted during the study, with response times indicated and split by HC and SC Ps. The results indicate that HC Ps responded faster in both settings of the test; however, this does not indicate that these Ps do not show bias. When comparing HC responses there is a significant automatic implicit bias for HC over SC, which is in line with our expectation. Conversely, SC Ps' responses indicate a slight automatic preference for HC over SC, which was not an anticipated outcome of this test and, intriguingly, this initial finding seems to corroborate the findings from study four which also indicated a slight "out-group" favoritism. In order to keep this section from becoming unwieldy, which very easily can happen with the amount of data collected, the decision was made to create distinctive blocks of analysis. These will be summarized at the end of each block.

Table 5. Mean reaction time for compatible trials.

The mean reaction time for compatible trials (Health care/Good words, Social care/Bad Words) in Blocks 3 & 6 - by sector			
	HC	SC	Mann-Whitney*
Minimum	601.85	717.65	<0.001
Lower quartile	830.4	1080.7	
Median	1005.2	1523.325	
Upper quartile	1171.4	2052.95	
Maximum	1852.8	2209	

*95 CI *p* Value

Table 6. Mean reaction time for incompatible trials.

The mean reaction time for incompatible trials (Social care/Good words, Health care/Bad Words) in Blocks 3 & 6 - by sector			
	HC	SC	Mann-Whitney*
Minimum	744.4	879.15	0.105
Lower quartile	1066.45	1088.45	
Median	1241.8541	1662.85	
Upper quartile	1438.85	1869.4	
Maximum	2519.35	3171.25	

*95 CI *p* Value

In Table 5 is an analysis of blocks 3 and 6 of compatible trails, as the statistical test shows, there is a significant difference in the way SC and HC Ps reacted to these tests. In essence, during the IAT, Ps' association time between HC and good constructs and the association time between SC and bad constructs was measured. As the table shows, HC Ps recorded a significantly shorter reaction time (RT) when compared with SC Ps. This indicates that HC Ps show a significantly more positive bias toward their own category (i.e., in-group favoritism), which is unexpected considering the results from the previous studies.

What is even more surprising is that, when compared to the results in Table 6, the RT of SC Ps is slower than that recorded during the compatible test, which indicates that SC Ps show a slight positive bias toward the HC category (i.e., out-group favoritism) which, like the previous result, is not somewhat unexpected, as it seems to oppose the relevant results in the previous studies.

In line with the recommendations of (Greenwald et al., 1998) the first two trials were excluded from the overall analysis as these tend to generate response times which are generally longer, as Ps are "learning how to use the IAT." In addition, trials which had a longer latency than 3000 M/sec and those shorter than 300 M/sec were also excluded to control for "inattention and anticipation" (Greenwald et al., 1998). All analyses reported in this section involve all 63 Ps.

> A comparison of (a) the reaction times in the task in which one category was paired with positive words with (b) those obtained in the task in which the other category was paired with positive words provide a measure of implicit preferences for the two categories (HC/SC in this study). That is, faster responses to a category when it was paired with a pleasant word than when it was paired with an unpleasant word indicate a stronger preference for that category than for the alternative (adopted from Maison, Greenwald, and Bruin, 2004, p. 408).

Averaged over all Ps there was no significant difference in RT when HC was paired with good words and SC with bad words (compatible trials HC+/SC-) and when SC was paired with good words and HC was paired with bad words (incompatible trials HC-/SC+); HC+/SC-; 1210 M/sec versus HC-/SC+; 1383 M/sec, respectively (Kolmogorov-Smirnov[3], $p = 0.699$, Mann-Whitney, $p = 1.000$).[4]

[3] Both of these tests, and all others in this were performed at 95% confidence level interval.

[4] Compatible trials = HC values positive; incompatible trials = HC values are negative. They are opposite functions. Hypothesis claims automatic preference HC, hence compatible trials. Incompatible trials state the opposite, i.e., automatic negative preference for HC.

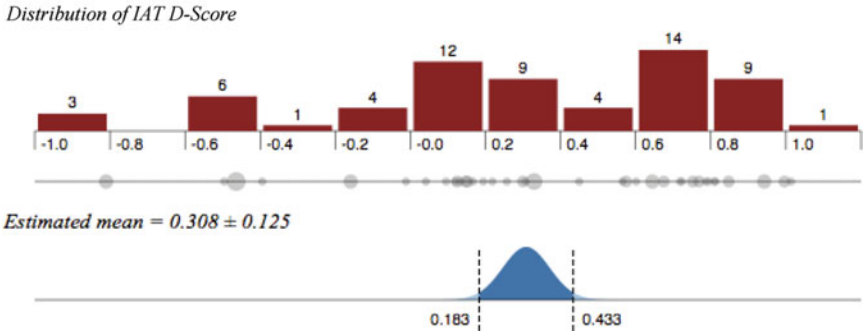

Figure 1. Distribution of IAT D-score.

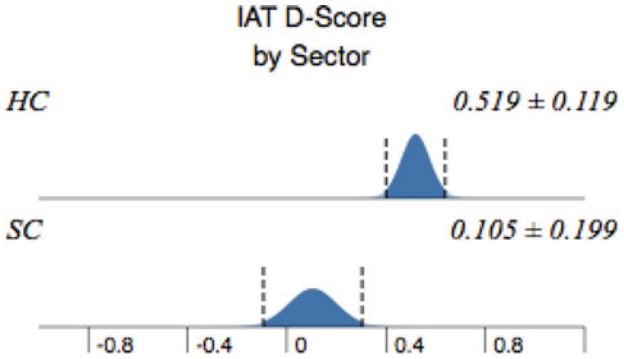

Figure 2. IAT D-score by sector.

The results of analyzing this data using a D-score[5] to measure the IAT effect for all Ps is shown in Figure 1. This shows an estimated mean score of 0.308 which suggests that all Ps indicate a slight to moderate automatic preference of HC over SC.

However, splitting the analysis by HC Ps and SC Ps indicates that there is a significant difference (t-test, $p < 0.001$, Mann-Whitney, $p = 0.004$) in the IAT results for the two sets of Ps, as is clearly shown in Figure 2.

A result for HC Ps of 0.519 indicates a moderate to strong automatic preference for HC over SC. At the same time, SC Ps recorded a 0.105 which indicates a slight automatic preference for HC over SC.

Discussion

These results reveal that HC Ps explicitly indicate a higher level of empathy, a lower level of cultural elitism, are more likely to "reach out" to others when compared to SC Ps. Yet, the inclusion of the implicit measures significantly indicates that there seems to be a clear "disconnect" between the explicitly communicated behavior and implicitly held beliefs. With a moderate to strong automatic preference for HC over SC, HC Ps indicated a level of "bias" which we suggest plays a significant role in

[5] The IAT effect (a Dscore) has a possible range of−2 to +2. Break points for "slight" (0.15), "moderate" (0.35), and "strong" (0.65) were selected conservatively according to psychological conventions for effect size as per the convention for such studies.

understanding of why successful integration between HC and SC does not seem to happen at scale and across the country. Correspondingly, SC Ps do indicate a slight automatic preference for HC over SC. This compares to SC Ps indicating a lower level of empathy and a higher level of social elitism. In other words, HC Ps have a stronger automatic implicit bias toward their own group when compared to SC Ps. This is a significant finding in several ways.

First, the academic impact of this study centers around the traditional survey method used in social science. The evidence of this study suggests that the survey research method on its own is questionable and requires such survey research method to gain in sophistication. We argue that implicit behavior should be considered when analyzing survey research data. Indeed, the NHS in England spends millions of pounds on the national staff survey of which the outcomes are ambiguous at best, yet results are very publicly discussed in national newspapers and media. Second, other studies carried out concomitantly to the one reported in this study corroborate our findings. Indeed, Aguis (2017) found a similar result when comparing implicit attitudes with explicit attitudes toward socially acceptable behavior toward new technology. Third, the research methods design employed in this dissertation are novel in the sense that it departs from traditional methods in three distinct ways (1) by using new interactive technology, (2) by collecting both qualitative and quantitative data concurrently, and (3) by collecting both explicit and implicit data. The very creation of implicit measures in social psychology finds its origin in the concern by scholars in the field about the ease of regulating responses on self-reported measures, such as surveys and interviews. Introducing implicit measures to this study reduced the opportunity for deliberate judgement and the likelihood for Ps to provide socially desired responses.

> Thus, implicit measures might assess evaluations that respondents do not want to express because such evaluations violate their self-image (being open to collaboration and integration with SC is the socially acceptable indicator) or because expressing such evaluations may have adverse social consequences (being seen as part of the problem may divert funds to those more willing to champion integration. (after Nosek, 2007)

Opportunity for technology

There certainly is a clear opportunity for technology to make a positive impact on this cognitive process. Indeed, interventions such as introducing an amended IAT as part of the recruitment process to key positions within organisations could have one such positive impact. Most organizations test technical capability and competencies of prospective employees already and are thus already relying on a significant amount of technology during this process. Introducing a computer based IAT to better understand implicitly held preferences will enable both the recruiting organisation and the candidate to understand any biases/prejudices and the extent to which these may impact on the suitability for the post applied for. However, it should be clearly noted that results of such a test may have significant ethical questions which need to be considered when recruiting and appointing a role, especially a senior

leadership role. Questions such as: "Should we appoint based on implicitly held prejudice?" or "If the candidate is not consciously aware of their prejudice can we hold it against them?" will require answers before seriously considering practical application of these recommendations. Indeed, we would encourage readers to give active thought on how to implement such a process given the above ethical considerations. Technically, at least the implementation of an appropriate IAT is relatively straightforward and could introduce clear benefits (e.g., possibly ensuring better candidate suitability for a vacancy) to any organization willing to amend their current recruitment processes. However, as stated, the introduction of such an intervention as part of the recruitment process leaves us with significant questions that would need to be considered. We are keen to engage in dialogue with those readers who would like to explore such questions actively.

In summary, the mere process of thinking about the concept of integration may activate implicit cognitive processes which influence behaviors in a way to hinder any effort to do so. Indeed, if our natural tendency is to work in an environment that we are familiar with than any challenge to the status quo will immediately be met with a scepticism especially of the kind that we are not aware of. Certainly, the quote from Lewis at the beginning of this article has pertinence. For integration and collaboration to succeed in the 21st century, we need to recognize that, to a certain extent, complacent dogmatism does thrive within HC (be it between professions or organizations). By being aware of our implicit prejudice (or bias) we may be able to focus on the best of what the other groups has to say, rather than the worst. This, we argue, is key to our ability to provide the transformative and sustainable HC system and patient care we need both now and in the future.

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