A Conservation Study of the Causal Relationship
between Social Impact and Social Status

David Egan

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Supervisor: Dr. Katriona O'Sullivan
Head of Department: Dr. Sinead Eccles

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Department of Psychology
Dublin Business School
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Abstract

Motivated by the idea that a heuristic use of the law of conservation of energy may inform an observer's cognitive construct of social hierarchies, this experiment examined the relationship between the observation of social impact and the attribution of social status. In an online study, 111 participants were randomly assigned to observe one of two videos in each of which, alternate targets administered the greater number of simulated shocks to the other in a sequence decided by chance. Status ratings for the targets were recorded within and between groups and while no causal relationship between social impact and social status was found, differences in gender trends and a mild conservation effect highlight the need for more research examining the influences of gender and controlled thought on social judgment.
Introduction

Latané (1981) suggests that "one can usefully think of social impact as being the result of social forces (like the physical forces of light, sound, gravity, and magnetism)" (p. 343) and this study is derived from the idea that, just as human beings "perceive" otherwise undetectable physical forces like those above by way of their consequences (Wolff, 1966), we also perceive social forces (or "social currency" for the purposes of this study) by observing their consequences and, that just as we have an implicit understanding that physical forces are bound by the physical law of the conservation of energy (Mohr, 1837), stating that the total amount of energy in an isolated system remains constant, we have an implicit understanding that social currency, is also bound by this law. This, implicit use of the law of conservation of energy, can be seen as a heuristic that helps an observer evaluate the magnitude of transfer of social currency from one party to another in a social interaction and it is suggested that this offers many adaptive benefits including (in the absence of overt demonstrations of social dominance that existed amongst our primate ancestors) that of assisting the observer over time in constructing a cognitive representation of the dominance hierarchy of their social group. If this hypothesis is correct, we could logically conclude that, while the social currency heuristic is a useful tool, as is often the case with heuristics, it may also lead to errors (Sunstein, 2005) and if so, a deeper understanding of social currency could give us a better understanding of errors of social perception.
This introduction will discuss the idea of social currency, explore its possible relationship, by way of a heuristic based on the law of conservation of energy, to subjective social status, highlight real empirical studies that provide indirect support for the social currency heuristic and outline the purpose and objectives of the study.

Social currency

The concept of social forces being comparable to physical forces is not a new one. Lewin (1943) developed a framework, force field analysis, for analysing forces that influence social situations, exploring how external stimuli either help or hinder an individual’s progress towards a goal and Dodd (1942, 1947) proposed a mathematical approach to sociology. Drawing upon this work, Latané developed social impact theory describing social impact as “any of the great variety of changes in physiological states and subjective feelings, motives and emotions, cognitions and beliefs, values and behavior, that occur in an individual, human or animal, as a result of the real, implied, or imagined presence or actions of other individuals” (p. 343) and, where his social impact theory examines the qualities of social impact: strength, immediacy and number of sources or targets, and the mathematical relationship between these qualities, this study is concerned with the perception by third parties of the forces that cause social impact. For these purposes, social currency can be defined as an implicitly constructed value that moves between people engaged in social interaction, often endowing the recipient with a value, or a benefit equal to that lost by the donor.
In the context of human perception of causation Wolff (2006) explores the possibility “that people can peer beyond the veil of the visible to represent the (invisible) elements of the world”, and he suggests that “while the essential elements of causation are invisible, they are also are highly inferable because they are lawfully connected to the visible properties of events” (p. 2). It is suggested that the implicit perception of social currency is likewise inferred from the visible properties of social interaction, manifested as reasoned arguments, raised voices, violence, triumph, embarrassment, tears and other outward signs.

*Conservation of energy*

Murai, Tanaka and Sakagami (2011) have shown that primates have an intuition for gravitational forces, and the complex stone handling abilities of Japanese Macaques shown by Leca, Gunst, & Huffman (2011) would suggest that their tool use involves some understanding the relationship between physical force and impact. If it were possible to track back through the evolutionary history of human beings, it is conceivable that some of the earliest ever cognitions we would find would involve a similar intuitive understanding of the movement of energy: that the greater the force with which a rock is propelled onto the skull of a beast, the greater the damage will be, that the more fuel is burnt, the more heat will be generated or that the more physical energy is expended, the more food must be consumed. Whether learned or innate, a heuristic understanding of the physical law of the conservation of energy has surely been with us for thousands of years.

Kahneman (2011) differentiated between two types of internal decision making: System 1 processes, that are heuristic, intuitive, fast and require little or
no cognitive effort and System 2 processes, that are consciously controlled, slow and require cognitive effort. It is proposed that the social currency heuristic is a System 1 process that works by applying the principles of the law of conservation of energy to social interaction, so that if one party is perceived by an observer to have lost social currency by, say, losing an argument with a third party, the third party is perceived to have gained an equal amount by winning it.

**Social currency and social status**

Primate societies are structured around dominance hierarchies that are established by overt behaviour including public acts of aggression between males and public copulation with estrous females (Vaughn & Waters, 1980). The overt nature of these social interactions allows the hierarchy to be easily learned by the group. In human society, such overt behaviour is not as common and social rank is generally achieved using more subtle means (Dawson 2004). This results in a more subtle hierarchy in human societies, that of social status.

After money, social status has been described as “the most important incentive and motivating force of social behavior” (Harsanyi, 1976, p. 204), and it can be measured as objective social status or subjective social status. Objective social status is related to readily measurable variables including class, race and socioeconomic factors, however this study is concerned with subjective social status, an individual’s view of their own, or another individual’s standing in their community, their monitory worth, their education, and the social and economic worth of their occupation, as outlined in the MacArthur scale of subjective status (see Adler, Epel, Castellazzo, & Ickovics, 2000; Ostrove, Adler, Kuppermann & Washington, 2000, Goodman et al., 2001 and Singh-Manoux, Adler, & Marmot,
Social status is associated with health (Bjorkqvist, 2001; Haan, Kaplan, & Syme, 1989), wealth (e.g., Parcel & Cook, 1977; Veblen, 1899/1953), happiness (Anderson & Berdahl, 2002), sex, race, physical attractiveness, occupational position, educational attainment and seniority within an organization (Ridgeway & Berger, 1986). The predominant view is that status is attributed based on enduring personal characteristics and reinforced through deferential acceptance of emergent status orders (Bendersky & Shah, 2013) and variations in personality have been shown to effect it (Anderson, John, Keltner & Kring, 2001). Many other factors have been cited as determinants of a person’s status including their affiliations (Podolny, 1993), the aesthetics of their face, their speech, posture, dress, and mannerisms (Mazur & Mueller, 1996) however, Dawson (2004) has shown that in varying contexts, different behaviours are associated with perceptions of status. In negotiation tasks for example, anger was shown to be associated with the perception of higher status. Many studies describe these effects however, few suggest the mechanism by which these changes in perception of social status occur. The social currency heuristic provides such a mechanism, suggesting that the action of one party and the reaction of another is observed and a transfer of social currency, obeying the law of conservation of energy, is implicitly observed, altering the perceived levels of embodied social currency within the two parties.

In this way it is suggested, social beings observe the winners and losers in social interaction and, over time, they establish subtle, social dominance hierarchies with those who cow others with aggressive acts or wow them with knowledge being propelled towards the top, and those who publicly fail and
appear foolish sinking towards the bottom.

*Indirect support for the social currency heuristic*

Gray (2012) showed in a series of experiments that our perception of pleasure and pain is influenced by our understanding of the intention behind the experience. In three experiments he showed that participants rated the taste of chocolate as better when it was given benevolently, that massages were more pleasurable when administered benevolently and that pain from electric shocks was worse when participants believed it to be administered with malice. The social currency hypothesis would suggest that the implicit use of the law of conservation of energy by the perceiver (the participant) would explain these effects. In the case of the electric shock paradigm for example, the participant feels a base level of pain, which can be described as the loss of a specific amount of social currency, say 4.2 (to use a number that is relevant to the original study) social currency units (SCU), as a result of electric shocks administered by a computer. It can be reasonably inferred that the participant attributes this level of pain only to the physical effects of electricity coursing through their body. In the malicious condition, they believe that the administrator of the shock is getting pleasure (say, .24 SCU) from administering the shock and so, implicitly using the law of conservation of energy, they conclude that the social currency gained by the administrator can only come from them, the receiver of the shock, and they therefore add this amount of social currency to that extracted by the shock alone, resulting in an increased level of pain (i.e. 4.44 SCU). The benevolent condition, as the study shows, has the exact opposite effect.
Sunstein (2005) notes that people who are convicted of crimes where there is a betrayal of trust, for example a babysitter stealing from her employer’s house, are likely to be punished more harshly than equivalent crimes where there is no betrayal. Placing a person in a position of trust is essentially giving that person an amount of responsibility that formerly resided with the donor. Responsibility is a measure of status and it is suggested that its transfer is viewed as a transfer of social currency and, when the betrayer, the babysitter in the example above, steals from the employer, they thereby take additional social currency on top of what they have been given by way of trust. In addition to a penal amount to act as a deterrent, the remedy for theft with betrayal therefore must include the entrusted social currency, as well as that stolen, whereas without the betrayal the remedy would only include the penal amount and the stolen social currency.

Berscheid, Boye and Walster (1968) highlight previous research showing that harm-doers are themselves willing to restore equity by compensating their victims, allowing their victims to derogate them or by convincing themselves that the victim somehow deserved the harm that they caused. These responses are consistent with the social currency heuristic, showing that even the perpetrator is driven to rebalance the equation.

**Purpose**

As outlined above, it is hypothesised that the social currency heuristic is an ever-present social meter that plays a part in moderating responses to social interactions and establishing social hierarchies and it is argued that any understanding of the machinery behind these processes may be of use when
addressing problems with social interaction or perceived social hierarchies. In the area of moral judgment Sunstein (2005) notes: “With respect to questions of fact, people use heuristics – mental short-cuts, or rules of thumb, that generally work well, but that also lead to systematic errors. People use moral heuristics too… that lead to mistaken and even absurd moral judgments.” (p. 1). He goes on to note that these mistakes feed into our educational, political and legal systems resulting in errors in those domains. By identifying the process behind specific heuristics, it is argued that one can identify why some of these errors occur and so, begin to rectify them. In the case of conflict for example, if each party is reacting to try to replenish their stocks of social currency, interventions that magnify perceived gains in social currency and minimise perceived losses may mitigate responses.

The need for more research in this area is highlighted by Dawson (2004) who notes that “to determine the dominance rankings among non-human primate groups, researchers closely attend both to dominance cues that reside with individuals—size, gestures, and so on—but also to submission cues offered by those with whom they interact. The target of a baboon’s threat yawn, for example, may respond either with submission or with menace, communicating very different information about the rank of the instigator in each case.” She found that human subjects in her studies “employed a similar strategy, attending not only to characteristics of the target, but also to the ways in which others responded to him.” She concludes that while her finding “that status judgments retained their significance even after controlling for some observable characteristics of the target (e.g., attractiveness) supports this proposition; however, more direct evidence clearly is needed” (p. 67). The social currency
hypothesis offers a mechanism by which this process occurs and, this study sought to fulfill that need by investigating the possibility of a causal link between social impact and subjective social status.

Objectives

This study enquires whether or not the social currency heuristic exists by detecting observers’ implicit perception of a transfer of social currency between two targets in an interaction involving social impact in the form of simulated electric shocks. It was anticipated that a transfer may be detected by way of measuring observers’ ranking of the targets in between subject and within subject conditions on versions of the MacArthur scales of subjective social status that have been modified to the third person. The research questions for the study therefore include whether or not social impact has a causal relationship to subjective social status and is there a conservation effect associated with this, i.e. is there a correlation between the gains in social status made by the target who delivers more simulated electric shocks and the losses in social status endured by the target who is impacted by more simulated electric shocks? The overarching hypotheses are therefore, that social impact has a causal relationship to subjective social status and that there is a correlation between the gains in social status made by the target who delivers more simulated electric shocks and the losses in social status endured by the target who is impacted.

The 8 hypotheses are:

H1: That participants will rate the target who administers more, and receives fewer electric shocks (hereafter the “impactor”), comparatively higher on
the community ladder of subjective social status than the target who administers fewer, and receives more electric shocks (hereafter the “impactee”) in the between subjects part of the experiment

**H2:** That participants will rate the impactor comparatively higher on the society ladder of subjective social status than the impactee in the between subjects part of the experiment

**H3:** That participants will rate the impactor higher on the community ladder after they watch the video than before they watch the video

**H4:** That participants will rate the impactee lower on the community ladder after they watch the video than before they watch the video

**H5:** That participants will rate the impactor higher on the society ladder after they watch the video than before they watch the video

**H6:** That participants will rate the impactee lower on the society ladder after they watch the video than before they watch the video

**H7:** That there will be a correlation between the gains in social status made by the impactor and the losses in social status endured by the impactee in the within subjects condition on the community ladder and

**H8:** That there will be a correlation between the gains in social status made by the impactor and the losses in social status endured by the impactee in the within subjects condition on the society ladder

To address these hypotheses, using subjective social status as a measure of observer’s estimates of embodied social currency within the two targets, this
study examines the relationship between social impact and social status and explores whether or not observers unknowingly employ the social currency heuristic as a result of witnessing the targets’ overt reactions to social impact.
Methodology

Participants

One hundred and ninety two participants were recruited by way of posters, social media, email, MMS messaging and word of mouth and took part in the study by accessing the web portal www.in-your-face.org which outlined the purported nature of the study and provided a link to an online survey. There were no exclusion criteria and all participants took part voluntarily however, as a motivational device to encourage participation and completion, all requests to participate and the introductory webpage noted that a small donation would be made to charity for each completed submission. Seventy participants were eliminated for submitting the same social status rating (zero or one) in answer to all questions or for dropping out of the survey before answering question 22_2, the minimum requirement for inclusion in the between groups analysis, a further 11 were eliminated on the basis of the recorded time spent on the video section being below the required threshold to have observed all instances of social impact, and a further seven participants were eliminated from the within groups data only, for dropping out of the survey before question 31_2, the minimum requirement for inclusion in that analysis. This resulted in a data set of 111 participants in the between groups analysis and 104 participants in the within groups analysis.

Participants were aged between 18 and 69 and comprised 43 males and 68 females in the between groups analysis, and 41 males and 64 females in the within groups analysis. In the between groups analysis, Condition 1 (where Tom was the impactor) comprised 23 males and 32 females and Condition 2 (where
Eric was the impactor) comprised 20 males and 36 females. In the within groups analysis Condition 1 comprised 21 males and 31 females and Condition 2 comprised 20 males and 32 females.

**Design**

The hypotheses were tested using a two-group, between subjects and within subjects true experiment with the between groups element involving the automated random assignment of participants to watch either of two marginally different videos featuring targets mutually administering mild electric shocks dictated by the roll of a die, and allocating status scores to the targets immediately after the video. The within groups element involved all participants allocating status ratings against people (including the targets) depicted in still headshots before the video round and again after the video round.

The independent variable was social impact in the form of the number of simulated electric shocks administered and received by each target. In Condition 1 Tom was the impactor, administering three shocks and Eric the impactee, administering two (resulting in Tom receiving two shocks and Eric three), whereas in Condition 2 the roles of impactor and impactee were reversed with Eric administering three shocks and Tom administering two (resulting in Eric receiving two shocks and Tom three). The between subjects dependent variables are the status ratings attributed by participants to the targets as follows:

**DV 1:** The subjective social status rating for the impactor (Tom in Condition 1 combined with Eric in Condition 2) minus the subjective social status rating for the impactee (Eric in Condition 1 combined with Tom in condition 2) on the community ladder. The alternative hypothesis (H1) is that this will be a statistically significant positive value.
DV 2: The subjective social status rating for the impactor (Tom in Condition 1 combined with Eric in Condition 2) minus the subjective social status rating for the impactee (Eric in Condition 1 combined with Tom in condition 2) on the society ladder. The alternative hypothesis (H2) is that this will be a statistically significant positive value.

DV 3: The subjective social status rating for Tom in Condition 1 minus the subjective social status rating for Tom in Condition 2 on the community ladder. As Tom is the impactor in Condition 1, the alternative hypothesis (H1) is that this will be a statistically significant positive value.

DV 4: The subjective social status rating for Eric in Condition 1 minus the subjective social status rating for Eric in Condition 2 on the community ladder. As Eric is the impactor in Condition 2, the alternative hypothesis (H1) is that this will be a statistically significant negative value.

DV 5: The subjective social status rating for Tom in Condition 1 minus the subjective social status rating for Tom in Condition 2 on the society ladder. As Tom is the impactor in Condition 1, the alternative hypothesis (H2) is that this will be a statistically significant positive value.

DV 6: The subjective social status rating for Eric in Condition 1 minus the subjective social status rating for Eric in Condition 2 on the society ladder. As Eric is the impactor in Condition 2, the alternative hypothesis (H2) is that this will be a statistically significant negative value.

The within subjects dependent variables are the status ratings attributed by participants to the targets as follows:

DV 7: The subjective social status rating for the impactor (Tom in Condition 1 combined with Eric in Condition 2) at Time 2 minus the subjective social status rating for the impactor at Time 1 on the community ladder. The alternative hypothesis (H3) is that this will be a statistically significant positive value.
DV8: The subjective social status rating for the impactee (Eric in Condition 1 combined with Tom in Condition 2) at Time 2 minus the subjective social status rating for the impactee at Time 1 on the community ladder. The alternative hypothesis (H4) is that this will be a statistically significant negative value.

DV9: The subjective social status rating for the impactor (Tom in Condition 1 combined with Eric in Condition 2) at Time 2 minus the subjective social status rating for the impactor at Time 1 on the society ladder. The alternative hypothesis (H5) is that this will be a statistically significant positive value.

DV10: The subjective social status rating for the impactee (Eric in Condition 1 combined with Tom in Condition 2) at Time 2 minus the subjective social status rating for the impactee at Time 1 on the society ladder. The alternative hypothesis (H6) is that this will be a statistically significant negative value.

DV11: The statistical relationship between the subjective social status rating for the impactor (Tom in Condition 1 combined with Eric in Condition 2) Time 1 minus Time 2 and the subjective social status rating for the impactee (Eric in Condition 1 combined with Tom in Condition 2) Time 1 minus Time 2 on the community ladder. The alternative hypothesis (H7) is that this will be a statistically significant negative value.

DV12: The statistical relationship between the subjective social status rating for the impactor (Tom in Condition 1 combined with Eric in Condition 2) Time 1 minus Time 2 and the subjective social status rating for the impactee (Eric in Condition 1 combined with Tom in Condition 2) Time 1 minus Time 2 on the society ladder. The alternative hypothesis (H7) is that this will be a statistically significant negative value.
Given that the data from the two experimental groups facilitate comparison between the two, a control group was not included in the experiment however, before and after status ratings were recorded, by way of the photograph questionnaire, for the referee, as a person who actively featured in the video, for further comparative purposes.

**Apparatus**

Two videos (one for each condition) were shot in a laboratory in DBS, Dublin. The videos were filmed with two identical Canon HF M406 HD camcorders for the close-up face shots and an iPad 3 for the wide-angle shot. A die and plastic cup were used by the referee in the video and two devices, consisting of a plastic electrical switch, connected to a mains type cable (disappearing out of shot and not plugged in) and speaker wire, attached in turn to a Velcro strap around the opposing target’s finger, were used. Two sequences of numbers were devised so that Target 1 (Tom) and Target 2 (Eric) would receive the same total score in throws of the die in both videos. These sequences were incorporated into two scripts that were performed by the actors. The three actors who play the part of Tom, Eric and the referee were recruited from Starnow.ie. They received no remuneration for their services and took part under the understanding that they would receive a copy of the final edit for their showreel portfolios. The videos were edited using iMovie on a MacBook Pro.
Materials

Still face shots.

Still shots of the faces of the three featured actors were acquired from their Starnow.ie profiles along with seven other still shots of male actors of similar age from the same website. These were acquired with the informed consent of the actors themselves and were used in the Facial Features section of the questionnaire.

Questionnaire.

Participants completed an online questionnaire via Qualtrics.com that included an informed consent page, a debriefing page, a bespoke series of questions seeking demographic information, and versions of the MacArthur Subjective Status Scale (community and society ladders of social status that are modified to refer to the third person, see Appendix B attached) for use with the still face shots and the videos. Participants were introduced to the subjective status ladders and the difference between the community ladder and the society ladder was explained. Scoring was recorded for the community ladder followed immediately by the society ladder on two 11-point sliding scales from zero to 10 where zero is the lowest possible status and 10 is the highest possible status.

The McArthur Subjective Status Scale has been widely used (eg. Adler, Epel, Castellazzo & Ickovics, 2000; Ostrove, Adler, Kuppermann & Washington, 2000; Goodman, Adler, Kawachi, Frazier, Huang & Colditz, 2001; Singh-Manoux, Adler & Marmot, 2003) and has been found to be a valid measure of social standing with Singh-Manoux, Adler and Marmot (2003) noting that results derived from the use of the scale “suggest that subjective social status reflects the
cognitive averaging of standard markers of socioeconomic situation and is free of psychological biases". The full questionnaire is attached at Appendix A. This scale was chosen as the best available for measuring subjective social status however, it was designed for self-report purposes rather than for use in the third person. Reliability has been reported as stable for self-report on the society ladder, with a Kappa value of 0.62 (0.58 to 0.64) and moderately stable for the community ladder with a Kappa value of 0.58 (0.56 to 0.61; Giatti, Camelo, Rodrigues, & Barreto, 2012), however the reliability of the use of the scales in the third person has not been tested. In order to provide a guide to its reliability in this context, a reliability analysis was run in SPSS and Cronbach’s alpha values of .78 and .77 were recorded for the community and society ladders at Time 1 indicating satisfactory reliability. To test reliability from Time 1 to Time 2, paired samples t-tests were run looking for differences between Time 1 and Time 2 ratings for the eight non-targets in the Facial Features Test on the two scales. After applying a Bonferroni correction, no statistically significant differences between Time 1 and Time 2 means were found and the scale was deemed to be satisfactorily reliable.

Procedure

Given that the experiment aimed to measure an implicit process, deception was used in an attempt to minimise conscious interference with status ratings. Participants were told, by way of the recruitment materials and introduction page, that the purpose of the experiment was to examine the relationship between the involuntary facial and bodily reactions of the targets elicited by the electric shocks and the subjective social status ratings of the
participants. The true nature of the study was revealed to participants at the end of the questionnaire by way of a debriefing page. The introduction page also advised participants that they were under no obligation to take part in the survey and that they could withdraw at any point. After submitting demographic data, participants were asked in *Facial Features Test 1*, the first photograph questionnaire to estimate the social status of ten males on the community and society measures of the McArthur subjective status scale, based on still, colour headshots of the males. The headshots included pictures of the two targets, renamed Tom and Eric for the experiment, and the referee who featured in the videos.

Participants then observed one of two videos in which the targets participated in a game overseen by a referee. The targets sat facing each other at opposite sides of a desk, each one controlling a button at their right hand that was connected by a cable to a strap around the finger of the opposing target’s left hand. The referee stood opposite the central camera, introduced the targets as Tom and Eric, and reiterated the stated intention of the study and the rules of the game. With the intention of eliminating the potentially moderating variables of perceived ability, talent, malice or competitiveness, he explained to participants that the targets would administer mild electric shocks each other on the basis of the roll of a die (dictated by chance). He then rolled the die for each target in turn, calling out a predefined sequence of numbers after each throw. The sequence of numbers was different for conditions 1 and 2 however they both added up to give the same totals for Tom (20) and Eric (21). To control for primacy and latency effects the sequences were calculated in such a way that Eric would shock first and Tom would shock last in both videos. The sequences are listed at Tables 1
and 2 below and the full script as presented to the actors is attached at Appendix C.

Table 1 *Sequence of numbers for Condition 1*

<table>
<thead>
<tr>
<th></th>
<th>Eric (impactee)</th>
<th>Tom (impactor)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round 1</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Round 2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Round 3</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Round 4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Round 5</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Round 6</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>21</td>
</tr>
</tbody>
</table>

Note: shading indicates first throw

Table 2 *Sequence of numbers for Condition 2*

<table>
<thead>
<tr>
<th></th>
<th>Eric (impactor)</th>
<th>Tom (impactee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round 1</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Round 2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Round 3</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Round 4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Round 5</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Round 6</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>21</td>
</tr>
</tbody>
</table>

Note: shading indicates first throw

The actors were instructed to act in such a way as to make the two videos indistinguishable other than for the difference in number sequence and direction of shocks administered and, in an attempt to minimise priming of participants, the referee was instructed not to improvise words or phrases that are in any way status related (for example, “you win” or “hard luck”).

After watching the video participants rated Tom and Eric in turn on the community and society ladders of subjective social status and proceeded to the next round, *Facial Features Test 2*, which was identical to the previous photograph round, *Facial Features Test 1*. On completion of this round, participants were informed that the questionnaire was complete and that a
donation would be made to charity on their behalf and they were invited to proceed to a debriefing page where the true nature of the study was explained. There were no foreseeable risks to participants from taking part in the study but contact details for the researcher were provided on the debriefing page for use in the event of distress.
Results

Between subjects

Descriptive statistics.

IBM SPSS (version 20) was used for all data analysis in this study commencing with the combination of subjective social status ratings for Tom in Condition 1 with those for Eric in Condition 2 to create new impactor variables on the community and society ladders. Similarly, ratings for Eric in Condition 1 were combined with those for Tom in Condition 2 to create impactee variables on the two scales thus facilitating DV1 and DV2 data.

Table 3  Between subjects descriptive statistics, impactor/impactee

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impactor community ladder</td>
<td>5.49</td>
<td>1.58</td>
</tr>
<tr>
<td>Impactee community ladder</td>
<td>5.76</td>
<td>1.66</td>
</tr>
<tr>
<td>Impactor society ladder</td>
<td>5.47</td>
<td>1.67</td>
</tr>
<tr>
<td>Impactee society ladder</td>
<td>5.43</td>
<td>1.54</td>
</tr>
</tbody>
</table>

One hundred and eleven participants (43 males and 68 females) provided between groups impactor and impactee data whose means ranged from 5.43 (SD = 1.54) for the impactee on the society ladder up to 5.76 (SD = 1.66) for the impactee on the community ladder as illustrated in Table 3. Fifty five participants (23 males and 32 females) were randomly assigned to Condition 1 where Tom was the impactor and their mean ratings ranged from 5.31 (SD = 1.6) for Eric on
the community ladder up to 6.04 (SD = 1.62) for Tom on the community ladder. This data is illustrated in Table 4.

Table 4  **Condition 1 descriptive statistics, Tom/Eric**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tom community ladder</td>
<td>6.04</td>
<td>1.62</td>
</tr>
<tr>
<td>Eric community ladder</td>
<td>5.31</td>
<td>1.60</td>
</tr>
<tr>
<td>Tom society ladder</td>
<td>5.49</td>
<td>1.74</td>
</tr>
<tr>
<td>Eric society ladder</td>
<td>5.42</td>
<td>1.56</td>
</tr>
</tbody>
</table>

This left 56 participants (20 males and 36 females) in Condition 2 where Eric was the impactor and, as outlined in Table 5, in this group mean ratings ranged from 4.96 (SD = 1.61) for Eric on the community ladder up to 6.20 (SD = 1.61) for Tom on the community ladder.

Table 5  **Condition 2 descriptive statistics, Tom/Eric**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tom community ladder</td>
<td>6.20</td>
<td>1.61</td>
</tr>
<tr>
<td>Eric community ladder</td>
<td>4.96</td>
<td>1.36</td>
</tr>
<tr>
<td>Tom society ladder</td>
<td>5.45</td>
<td>1.54</td>
</tr>
<tr>
<td>Eric society ladder</td>
<td>5.45</td>
<td>1.62</td>
</tr>
</tbody>
</table>

**Inferential statistics.**

The data was normally distributed (as verified by histograms) and so, parametric tests were used to analyse the data. A paired samples t-test was run looking for differences between the impactor and impactee variables on the community ladder (DV1). Contradicting the alternative hypothesis H1, the mean
value for impactor was lower (5.49, SD = 1.58) than that for the impactee variable (5.75, SD = 1.66) however this relationship was not found to be statistically significant (t(110) = -1.12, p = .26). The same procedure was followed to create and compare impactor and impactee variables on the society ladder (DV2) and, unsurprisingly given means of 5.47 (SD = 1.58) and 5.43 (SD = 1.54) respectively, no statistically significant difference was found between impactor and impactee (t(110) = .15, p = .88).

DV1 and DV2 results were further explored by way of a splitting the data by gender, and this revealed that the males in the sample were more inclined towards the relationship between impactor and impactee predicted by the hypothesis with means of 5.63 (SD = 1.6) and 5.46 (SD = 1.59) respectively on the community ladder, though not in a statistically significant way (t(42) = .46, p = .65), as opposed to 5.41 (SD = 1.58) and 5.94 (SD = 1.68) from the female portion of the sample, which again was not found to be statistically significant (t(67) = -1.73, p = .088).

On the society ladder, the means for male responses were 5.33 (SD = 1.52) for impactor and 5.2 (SD = 1.5) for impactee, a relationship that was not found to be statistically significant (t(42) = .358, p = .722) and the means for female responses were 5.56 (SD = 1.76) for impactor and 5.57 (SD = 1.56) for impactee, a difference which again was found to be statistically insignificant (t(67) = -.04, p = .964). For the purposes of illustration of trends, impactee means were subtracted from impactor means and translated to a bidirectional bar chart.
In pursuance of DV 3, DV4, DV5 and DV6 data, independent samples t-tests were run comparing Condition 1 ratings to those of Condition 2 for Tom and Eric individually on the two status scales and, on the community ladder (DV3 & DV4), the sample once again defied the hypothetical prediction. Tom’s condition one mean, the condition in which he was impactor, was 6.04 (SD = 1.62), lower than his Condition 2, impactee mean of 6.2 (SD = 1.61) in a relationship that was not statistically significant (t(109) = -.52, p = .603) and Eric’s condition one mean, as impactee, was 5.31 (SD = 1.6) as compared to his Condition 2 impactor mean of 4.96 (SD = 1.36), in another insignificant, statistical relationship (t(109) = .223).

Once again these results were examined for gender differences and the results reflected the combined statistics for impactor and impactee above, with males rating Tom higher on the community ladder in Condition 1 as impactor (5.91, SD = 1.8) than in Condition 2 (5.8, SD = 1.82) and rating Eric higher on
that scale in Condition 2 as impactor (5.3, SD = 1.3) than in Condition 1 (5.17, SD = 1.33). Females showed greater differences, though not great enough to be significant (t(67) = -1.73, p = .9), with means moving in an opposite direction to those of males for both impactor and impactee. They were recorded as 5.41 (SD = 1.58) for the impactor and 5.94 (SD = 1.68) for the impactee. Again these results were translated to a chart to illustrate trends, this time by subtracting Condition 1 means from those of Condition 2.

The same analysis was carried out for the whole sample on the society ladder (DV5 & DV6) showing that Tom’s mean ratings as impactor and impactee were 5.49 (SD = 1.74) and 5.45 (SD = 1.54) respectively in a relationship that was not statistically significant (t(109) = .14, p = .89) and Eric’s means were 5.45 (SD = 1.62) as impactor and 5.42 (SD = 1.56) as impactee, again with no
statistical significance between them ($t(109) = -.94, p = .93$).

Again, a reduction of these society ratings was undertaken by way of a gender split showing that males were inclined to give lower status ratings than females, with means of 5.17 (SD = 1.47) for Tom as impactor versus 5.2 (SD = 1.54) for him as impactee, as compared to mean ratings of 5.72 (SD = 1.9) and 5.58 (SD = 1.54) from females. Neither of these relationships were found to be statistically significant (males: $t(41) = -.06, p = .95$; females: $t(67) = .32, p = .75$).

The mean society status ratings for Eric amongst males were not found to have a statistically significant relationship either ($t(41) = -.56, p = .55$) with ratings of 5.5 (SD = 1.6) for Eric as impactor and 5.22 (SD = 1.51) for him as impactee, and, in a further statistically insignificant relationship ($t(66) = .37, p = .71$), the mean female ratings on the society ladder for Eric was 5.42 (SD = 1.64) as impactor and 5.56 (SD = 1.6) as impactee.

![Figure 5 Between subjects Condition 1 minus Condition 2: Society](image-url)
In summary, the between subjects data was somewhat dichotomous in nature, with, in each instance, opposing trends for females and males. The data however provided no support for the alternative hypotheses, and H1 and H2 must therefore be rejected in favour of the null hypotheses.

**Within subjects**

**Descriptive statistics.**

In a similar procedure to that used with between samples data, impactor and impactee variables were created at Time 1 and Time 2 on the community and society ladders for within group analysis. One hundred and four participants (41 males and 63 females) were included in the within groups part of the study and, as tabulated below in Table 6, the means of their status ratings ranged from a low of 5.29 (SD = 1.72) for the impactee on the society ladder at Time 1 to a high of 5.92 (SD = 1.94) for the impactor on the community ladder at Time 1.

**Table 6** *Within groups descriptive statistics*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impactor community ladder t1</td>
<td>5.92</td>
<td>1.94</td>
</tr>
<tr>
<td>Impactor community ladder t2</td>
<td>5.65</td>
<td>1.72</td>
</tr>
<tr>
<td>Impactee community ladder t1</td>
<td>5.94</td>
<td>1.79</td>
</tr>
<tr>
<td>Impactee community ladder t2</td>
<td>5.67</td>
<td>1.70</td>
</tr>
<tr>
<td>Impactor society ladder t1</td>
<td>5.29</td>
<td>1.72</td>
</tr>
<tr>
<td>Impactor society ladder t2</td>
<td>5.42</td>
<td>1.68</td>
</tr>
<tr>
<td>Impactee society ladder t1</td>
<td>5.43</td>
<td>1.63</td>
</tr>
<tr>
<td>Impactor society ladder t2</td>
<td>5.29</td>
<td>1.66</td>
</tr>
</tbody>
</table>
Baseline status ratings for Tom and Eric at Time 1 were compared by way of a paired samples t-test and a statistically significant difference was found with Tom rated higher on both community (t(103) = 5.311, p < .01) and society ladders (t(103) = 3.45, p < .01). The implications of this difference is evaluated in the discussion section.

**Inferential statistics.**

Paired samples t-tests were used to compare Time 1 means to those of Time 2 and, on the community ladder (DV7), no statistically significant difference was found between impactor ratings (t(103) = 1.67, p = .1) with means of 5.92 (SD = 1.94) and 5.65 (SD = 1.72) for Time 1 and Time 2 respectively, however the impactee mean of 5.94 (SD = 1.79) at Time 1 was, as predicted by the hypothesis (H4), higher than that recorded at Time 2, 5.67 (SD = 1.7) and this difference (DV8) was found to be statistically significant (t(103) = 2.2, p = .03). In order to isolate the contribution to this result of Tom as impactee from that of Eric as impactee, their individual Time 1 versus Time 2 impactee values on the community ladder were sought using an independent samples t-test and this showed that the reduction of Eric’s mean by .13 of a point was not significant in itself however the reduction of Tom’s mean by .4 of a point was (t(51) = 2.59, p = .01), showing that Tom’s means drove the overall impactee difference to statistical significance. As a result, the alternative hypothesis, H3 can be rejected and H4 can be accepted.

As had been done previously, this community data was further analysed for gender differences and statistically significant results were recorded for the male portion of the sample for both impactor (t(40) = 2.11, p = .041) and
impactee (t(40) = 2.187, p = .035). The means for the impactee went down as predicted by H4, from 6.02 (SD = 1.85) to 5.58 (SD = 1.67) however, contrary to H4, those for the impactor also went down, from 6.05 (SD = 1.64) at Time 1 to 5.54 (SD = 1.72) at Time 2. Differences in means from the data provided by females were significant neither for the impactor (t(62) = .52, p = .6) nor for the impactee (t(62) = 1.03, p = 3.1) with means falling from 5.84 (SD = 2.12) to 5.73 (SD = 1.73) for the impactor and 5.89 (SD = 1.76) to 5.73 (SD = 1.72) for the impactee. Once again these differences were translated to a chart for illustrative purposes.

The same procedure was followed for the society ladder using the full data set and, in spite of an increase in means from 5.29 (SD = 1.72) at Time 1 to 5.42 (SD = 1.68) at Time 2 for the impactor (DV 9), no statistically significant relationship was found (t(103) = -.985, p = .327). The impactee mean decreased
from 5.43 (SD = 1.63) at Time 1 to 5.29 (SD = 1.66) at Time 2, however the difference between the means (DV 10) was not statistically significant ($t(103) = 1.03$, $p = .295$).

When split by gender, society data from males resulted in means of 5.17 (SD = 1.46) for the impactor at Time 1 as opposed to 5.12 (SD = 1.49) at Time 2 in a statistically insignificant relationship ($t(40) = .25$, $p = .8$) and a statistically significant difference in means for the impactee from Time 1 to Time 2 ($t(40) = 2.98$, $p < .01$) with means moving in the direction predicted by the hypothesis from 5.63 (SD = 1.53) to 5.07 (SD = 1.47). The trend for female responses was upward from Time 1 to Time 2 with the impactor mean rising from 5.36 (SD = 1.87) to 5.62 (SD = 1.77) and the impactee mean going from 5.3 (SD = 1.69) at Time 1 to 5.43 (SD = 1.77) at Time 2. Neither of these relationships were statistically significant (impactor: $t(62) = -1.35$, $p = .18$, impactee: $t(62) = -.693$, $p = .49$).

Figure 9 Within subjects Time 1 minus Time 2: society

Figure 10 Within subjects Time 1 minus Time 2: society, male/female split
To investigate hypotheses H7 and H8, Time 1 ratings were subtracted from Time 2 ratings for impactor and impactee to create four new variables, impactor differences and impactee differences on the community and society ladders. Pearson’s r correlations were run comparing impactor differences with impactee differences on both scales on the understanding that a negative correlation would indicate a conservation effect, i.e. a tendency for participants to decrease their rating for one target as they increase their rating for the other.

On the community ladder (DV 11) a moderate, significant negative association was found between impactor differences and impactee differences (r (102) = -.35, p < .01) however for DV 12, no significant relationship was found on the society ladder (r (102) = .045, p = .325).

A gender split revealed that the moderate statistically significant relationship applies to both male participants (r (39) = -.35, p = .02) and to female participants (r (61) = -.38, p < .01) on the community ladder whereas no significant association was computed from male data (r (39) = .03, p = .84) or female data (r (61) = .01, p = .9) on the society ladder. Therefore the conservation hypothesis relating to the community ladder, H7 is retained but the null hypothesis must be retained with regard to H8.
Figure 11 Correlation: impactor differences with impactee differences

Figure 12 Correlation: impactor differences with impactee differences, male
Given that the referee (person 6 in the *Facial features test*) also appeared in the video, his Time 1 and Time 2 ratings were compared by way of paired samples t-tests, as a pseudo-control. His ratings remained stable from Time 1 to Time 2 with identical means of 5.14 (SD = 1.74) at Time 1 and 5.14 (SD = 1.63) at Time 2 on the community ladder and means of 4.77 (SD = 1.53) and 4.71 (SD = 1.56) at Time 1 and Time 2 respectively on the society ladder. Neither the community differences \( (t(103) = 0, p = 1) \) nor the society differences \( (t(103) = .56, p = .57) \) were statistically significant.
Discussion

*Interpretive approach*

Using subjective social status as a measure of observer’s estimates of embodied social currency within two targets, this study aimed to answer the research questions of whether or not social impact has a causal relationship to subjective social status and, if so, whether or not there is a conservation effect associated with this, thereby establishing whether or not a transfer of social currency, obeying the law of conservation of energy, was implicitly observed by participants, altering the perceived levels of embodied social currency within the targets. With all but two hypotheses, H4: “that participants will rate the impactee lower on the community ladder after they watch the video than before they watch it”, and H7: “that there will be a correlation between the gains in social status made by the impactor and the losses in social status endured by the impactee” in the within subjects condition on the community ladder, being rejected, the results provide little support for the overarching hypotheses and, until such time that the opposite is empirically supported, the most logical explanation for the results is that that overarching hypotheses are false and, for now, this is what must be assumed.

The results show no effect in either the community or society measures of the between subjects analysis, no effect in the society measure of the within groups analysis and no correlation between Time 1 and Time 2 values on the society ladder in the within groups however, given that the study was confined to social impact and social status, the results can not be interpreted as conflicting with the social forces theories of Lewin (1943), Dodd (1942, 1947) or Latané (1981) nor does it contradict Wolff’s proposition that human beings can “peer
beyond the veil of the visible to represent the (invisible) elements of the world” (p.2). Two hypotheses however, were retained and this discussion will explore these in the light of the other results and the limitations of the study, not by reverse engineering the results to support selected aspects of the overarching hypotheses or other hypotheses, thereby inferring causality by way of consequences as described by Wolff (2006), but by the use of a reflective criticism of the methodology of the experiment as an more appropriate first step towards providing some insight in to how the results may best be interpreted.

The limitations, or possible confounds, that were identified include the significant imbalance in social status ratings between Tom and Eric at Time 1 before any experimental manipulation (PC1), an apparent difference in magnitude of overt responses of the targets to the simulated shocks (PC2) and the presentation of two scales of social status as opposed to one (PC3). These limitations will be discussed in separate sections below and, so as not to disengage them from the context that gave rise to them, suggestions for future research will be dealt with in the section dealing with the relevant possible confound. Before addressing these though, an area that is unrelated to confounds, the different trends in mean status values between male and female responses is considered worthy of discussion.

**Gender trends**

It was observed that in the between subjects analysis the trend in terms of the direction of the mean for the male portion of the sample was, in six cases out of six, opposite to that of the male portion. Combined with the fact that when the within subjects analysis was split by gender, one significant result became three,
all on the male side of the gender divide, it is suggested that, perhaps
unsurprisingly, the internal status constructs of females can react differently to
those of males when observing social interaction. Again, one is in the realm of
speculation when interpreting these trends however, it is conceivable that gender
differences exist in a number of areas relating to the observation of social
interaction, including differences in empathetic responses to a target’s pain. On
this basis, the tendency for female mean values to be higher for the impactee
than the impactor in the between subjects condition could, in the light of PC2, be
interpreted as a translation of empathy for the impactee into positive regard and
thus an increase in subjective social status. Similarly, the three significantly
lower status ratings by males at Time 2 could be seen as evidence of an absence
of empathy and, given that the dominance hierarchies of our primate ancestry
were largely established by the overt behaviour of males as noted in the
introduction (Vaughn & Waters, 1980), perhaps the observation by male
participants of both targets being shocked resulted in lower status ratings for both
impactor and impactee. Further research, using more balanced overt target
responses and specifically focusing on gender differences is suggested to further
investigate these trends.

Baseline differences

As outlined in the introduction, social status may be inferred from many
characteristics including physical attractiveness (Ridgeway & Berger, 1986), the
aesthetics of faces, speech, posture, dress, and mannerisms (Mazur & Mueller,
1996) and on reflection, the first of the possibly confounding factors (referred to
hereafter as PC1) outlined above may have been the result of differences in the
photographs presented at Time 1. Tom’s picture is professionally taken, and in it he wears a simple black tee shirt and a genuine looking smile. His eyes are clearly visible and, although the photographs presented were the same size, against a clean white background his head is significantly larger in the frame than Eric’s. Eric’s is a casual, outdoor shot depicting him wearing denim with slightly windblown hair and, as he squints into the sun, his eyes are not clear. Given that differences were being measured and not absolutes, it was understood while preparing the experiment that differing base levels of social status would not confound the results. Whether starting from a base status level of three or seven, what was being measured was the deviance from that in terms of the opposing condition in the between subjects analysis, or at Time 2 in the within subjects analysis. While this logic is sound, it may be the case that the baseline differences stirred prejudices or emotional responses, such as positive and negative regard, for the faces resulting in different attitudes to the targets receipt or delivery of simulated shocks.

Figure 14 PC1: Tom (left) and Eric (right) as they appeared in Facial features round
Reaction differences

The second imbalance between Tom and Eric, the apparent difference in magnitude of their responses to the shocks (PC2), is seen as more likely to be a confounding factor. When watching either video Tom’s reactions to the shocks appear more overt and vocal than Eric’s. In earlier takes while shooting the videos this difference was more pronounced and was corrected to some extent for the final edits however, while the logic outlined above can also be applied here, Dawson’s (2004) suggestion that the way in which a target reacts to an impact can be the difference between an increase or a decrease in their dominance status must be borne in mind, and it is seen as possible that the residual difference introduced confounding factors such as increased sympathy for, or empathy with, Tom and a greater attribution of resilience to Eric. One can only speculate as to the effects of sympathy, empathy and resilience on the attribution of social status but, conceivably these factors would work against the hypotheses by increasing status values for those who are shocked more, and they may have combined to eliminate statistically significant results in support of the hypotheses. Ideally PC1 and PC2 would be minimised by presenting the targets in the Facial Features Test in photographs of equal quality depicting similar facial expressions at the same scale, and by presenting them with responses of equal magnitude to the shocks in the video round.

An implicit process

The MacArthur subjective status scale includes two measures of status, a community ladder and a society, or SES, ladder (see Appendix B) and, aware of the authors’ view that, depending upon one’s context, “standing on the
community ladder may be as important as standing on the SES ladder” (N. Adler, personal communication, October 9, 2013), both were included in this study. Although the difference between these measures of status was outlined to participants before and during their use, it is conceivable that these explanations were not always read and, in the light of the fact that the study aimed to record implicit effects, a single, more intuitive measure may have been more effective.

In all rounds, participants were asked to give a rating first on the community ladder and, immediately after, on the society ladder and it could be speculated that the participant’s first response, on the community ladder, is likely to have been quite intuitive whereas the second, performed with awareness of the first value and in the belief that the second should be different, as indicated by the presence of the two scales and their explanation, is less so. By this interpretation, System 2 decision making, that which requires more cognitive effort and relies less on implicit processes (Kahneman, 2011), is more likely to have occurred when participants attributed status on the second, society ladder, whereas the more heuristic approach of System 1 decision making, is likely to have been more active when attributing community status on the first scale. The social currency heuristic was argued in the introduction to be an implicit process that could be detectible by way of the conservation effect sought by hypotheses H7 and H8 and the moderate, significant correlation between the gains in social status made by the impactor and the losses endured by the impactee on the community ladder that resulted in the retention of H7 (evident for males as well as females), combined with the absence of any correlation on the society ladder (equally absent across the genders) sought by H8, could be interpreted to suggest that implicit processes drive this conservation effect. Given that these
implicit processes could include sympathy, empathy and the perception of resilience, it cannot be seen as support for the hypothesis that social impact has a relationship to social status, but one could speculate that this is a residual effect of the social currency heuristic in that, in many instances as one party implicitly gains status by way of sympathy, empathy, the perception of resilience, the perception of social impact or any other factor, the other party looses it.

It must also be noted however, that the correlation, ranging from .35 in males to .38 in females can be described as moderate at best and that it may have been some aspect of the difference in participants understanding of community versus society status that was the causal factor in the absence or presence of a correlation between impactor and impactee status values. It is suggested that this could be tested in future research by repeating the design of this study with reversed orders of scales between two comparative groups of participants to test for System 1 and System 2 decision making, increased ambiguity between the definition of the scales to increase the magnitude of the System 2 response and monitoring the process by way of EEG or fMRI to confirm that orbitofrontal cortical regions are more active when making the second choice. Other avenues of exploration include placing participants under cognitive load in one condition to reduce orbitofrontal interference with System 1 decision making for comparison with a control group.
Conclusion

Much has been written in this discussion about areas in which the study could be improved, however its strengths should not be overlooked. The design is seen as a new experimental model that, with improvements outlined above, could be applied to the relationship between social impact and other subjective social constructs, particularly those that may be associated with our perception of the human face, for example attractiveness, friendliness, kindness and competence as studied by Todorov, Mandisodza, Goren and Hall (2005), and it facilitated a multifaceted approach to the interrogation of two overarching hypotheses, allowing for interpretation from several different angles and providing a rich body of data for future reference. The absence of an effect in the between subjects analysis suggests that immediately after observing a social interaction people are not influenced by a heuristic response to an involuntary exchange of social impact and, if this is the result of the dominance of rational, System 2 decision making, it is an encouraging finding.

The suggestion that the reduction in social status value of the impactee on the community ladder may have been driven by Tom’s overt reactions to the shocks and not simply by the shocks themselves is encouraging too in that it supports the notion that, by controlling our reactions to the impacts we endure, all of us have the power to control our worth in the eyes of others. There are many practical applications of this knowledge, most obviously in the area of bullying. South and Wood (2006) concluded that “a desire to achieve social status in prison may contribute to bullying” and there is no reason to believe that schools or workplaces are any different in this regard and, if there may be, as this study could be interpreted to suggest, even a moderate conservation effect in the mind
of the bully, an overt reaction to being bullied is more likely to elevate the bully’s internal representation of his or her own status thereby rewarding and reinforcing the behaviour, than a muted one.

This study set out to provide evidence for the existence of the social currency heuristic by way of the relationship between social impact (Latiné, 1981) and social status and, though it found a relationship between these variables in only one of six instances, it also found a negative correlation, albeit moderate, suggesting that in some instances a mild conservation effect may occur when human beings observe social interaction. It was argued in the introduction that, when applied to social situations, a heuristic, System 1 response such as this could cause errors in social judgment and, although it is merely speculation that the absence of a conservation effect on the society ladder may be due to the application of System 2 reasoning, it is encouraging to consider the possibility that errors in social judgment may be overcome by conscious and controlled rational thought.

It is hoped that future research will provide evidence to support or contradict these possible interpretations but it is suggested that until then, in a situation where we or those close to us suffer a negative impact, an awareness of the possibility of a conservation effect acting upon our social judgment may, by way of the employment of System 2 reasoning, mitigate against claims of blame where there is none, or the application of retribution where none is justified.
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Appendix A

Online Study Questionnaire
The survey can be accessed as it was by participants here:

http://www.in-your-face.org/

In your face! Or is it? The effect of involuntary reactions on social status. Q1
Welcome! Information Sheet

Purpose of the Study. This study aims to collect information about unconscious mechanisms that moderate our perception of other people’s social status.

What will the study involve? The study will involve you being shown photographs of male faces and being asked to make a judgment about the likely social status of each person in the photographs. You will also be asked to watch a short video which features two people playing a game involving the mutual administration of mild electric shocks. After watching the video you will be asked to make a judgment about the likely social status of the people playing the game. You will have to answer all of the questions in any section before being able to pass on to the next section. Sorry, but skipping doesn't work for this study!

Do you have to take part? No. You may decide to stop being a part of the research study at any time without explanation. Furthermore, you have the right to ask that any data you have supplied to that point be withdrawn/destroyed. You have the right to have your questions about the procedures answered - e-mail addresses are provided below. If you have any questions as a result of reading this information sheet, you should ask the researcher before the study begins.

Will your participation in the study be kept confidential? Yes. All data is collected anonymously by Qualtrics and the demographic data you provide will not be associated with you as an individual. Your IP address will be recorded and it is the intention of the researchers to publish the data and/or present it at psychology conferences however, neither your IP address nor any information that can identify you, will form part of this data.

How long will it take? The bar at the bottom of the page indicates your progress and it is estimated that the questionnaire will take between 10 and 15 minutes to complete.

What are the possible disadvantages of taking part? There are no foreseeable risks to you but you may feel emotional discomfort at watching the people in the video administer mild electric shocks to each other. You may also experience unease at making judgments about the social status of those in the video or pictures. The issue of social status in itself may also arouse negative feelings. If you experience any significant distress as a result of taking part in this study you should contact your GP or use the contact details below to contact us.

Will I be paid to take part? No, however a donation of €1 will be made to charity for each valid submission.
Any further queries? If you need any further information, you can contact me: David Egan, daveceannt@gmail.com or my supervisor, Dr Katriona O'Sullivan, katriona.osullivan@dbs.ie

If you agree to take part in the study, please click the button below.
☑ I have read and understand the above and I agree to take part in this study (1)

Q2 A Few Questions About You   How old are you?
☑ Under 13 (1)
☑ 13-17 (2)
☑ 18-25 (3)
☑ 26-34 (4)
☑ 35-54 (5)
☑ 55-64 (6)
☑ 65 or over (7) ____________________

Q3 What is your gender?
☑ Male (1)
☑ Female (2)

Q4 What is the highest level of education you have completed?
☑ Less than High School / GED / A Levels / Leaving Cert (1)
☑ High School / GED / A Levels / Leaving Cert (2)
☑ Some College (3)
☑ 2-year College Degree (4)
☑ 4-year College Degree (5)
☑ Masters Degree (6)
☑ Doctoral Degree (7)
☑ Professional Degree (JD, MD) (8)
Q5 As a student, what was/is your area of study?
- Forestry, mining, fishing, hunting or agriculture (1)
- Utilities, transportation (2)
- Construction, real estate, rental, leasing (3)
- Manufacturing, warehousing (4)
- Retail, wholesale (5)
- Law, courts, policing (6)
- Finance, insurance (7)
- Scientific, IT, technical services (8)
- Management / consultancy of companies or enterprises (9)
- Psychology, sociology, psychotherapy (10)
- Medicine, health care, social assistance (11)
- Arts, entertainment or recreation (12)
- Educational services (13)
- Other (14)
- None (15)

Q6 In which industry are you currently employed?
- Forestry, mining, fishing, hunting or agriculture (1)
- Utilities, transportation (2)
- Construction, real estate, rental, leasing (3)
- Manufacturing, warehousing (4)
- Retail, wholesale (5)
- Law, courts, policing (6)
- Finance, insurance (7)
- Scientific, IT, technical services (8)
- Management / consultancy of companies or enterprises (9)
- Psychology, sociology, psychotherapy (10)
- Medicine, health care, social assistance (11)
- Arts, entertainment or recreation (12)
- Educational services (13)
- Other (14)
- None (15)
Q7 Where do you live?
- Australia (9)
- Brazil (24)
- Brunei Darussalam (25)
- Bulgaria (26)
- Burkina Faso (27)
- Burundi (28)
- Cambodia (29)
- Cameroon (30)
- Canada (31)
- Cape Verde (32)
- Central African Republic (33)
- Chad (34)
- Chile (35)
- China (36)
- Colombia (37)
- Comoros (38)
- Congo, Republic of the (39)
- Costa Rica (40)
- Côte d'Ivoire (41)
- Croatia (42)
- Cuba (43)
- Cyprus (44)
- Czech Republic (45)
- Democratic People's Republic of Korea (46)
- Democratic Republic of the Congo (47)
- Denmark (48)
- Djibouti (49)
- Dominica (50)
- Dominican Republic (51)
- Ecuador (52)
- Egypt (53)
- El Salvador (54)
- Equatorial Guinea (55)
- Eritrea (56)
- Estonia (57)
- Ethiopia (58)
- Fiji (59)
- Finland (60)
- France (61)
- Gabon (62)
- Gambia (63)
- Georgia (64)
- Germany (65)
Ghana (66)
Greece (67)
Grenada (68)
Guatemala (69)
Guinea (70)
Guinea-Bissau (71)
Guyana (72)
Haiti (73)
Honduras (74)
Hong Kong (S.A.R.) (75)
Hungary (76)
Iceland (77)
India (78)
Indonesia (79)
Iran, Islamic Republic of... (80)
Iraq (81)
Ireland (82)
Israel (83)
Italy (84)
Jamaica (85)
Japan (86)
Jordan (87)
Kazakhstan (88)
Kenya (89)
Kiribati (90)
Kuwait (91)
Kyrgyzstan (92)
Lao People's Democratic Republic (93)
Latvia (94)
Lebanon (95)
Lesotho (96)
Liberia (97)
Libyan Arab Jamahiriya (98)
Liechtenstein (99)
Lithuania (100)
Luxembourg (101)
Madagascar (102)
Malawi (103)
Malaysia (104)
Maldives (105)
Mali (106)
Malta (107)
Marshall Islands (108)
Mauritania (109)
- Mauritius (110)
- Mexico (111)
- Micronesia, Federated States of... (112)
- Monaco (113)
- Mongolia (114)
- Montenegro (115)
- Morocco (116)
- Mozambique (117)
- Myanmar (118)
- Namibia (119)
- Nauru (120)
- Nepal (121)
- Netherlands (122)
- New Zealand (123)
- Nicaragua (124)
- Niger (125)
- Nigeria (126)
- North Korea (127)
- Norway (128)
- Oman (129)
- Pakistan (130)
- Palau (131)
- Panama (132)
- Papua New Guinea (133)
- Paraguay (134)
- Peru (135)
- Philippines (136)
- Poland (137)
- Portugal (138)
- Qatar (139)
- Republic of Korea (140)
- Republic of Moldova (141)
- Romania (142)
- Russian Federation (143)
- Rwanda (144)
- Saint Kitts and Nevis (145)
- Saint Lucia (146)
- Saint Vincent and the Grenadines (147)
- Samoa (148)
- San Marino (149)
- Sao Tome and Principe (150)
- Saudi Arabia (151)
- Senegal (152)
- Serbia (153)
- Seychelles (154)
- Sierra Leone (155)
- Singapore (156)
- Slovakia (157)
- Slovenia (158)
- Solomon Islands (159)
- Somalia (160)
- South Africa (161)
- South Korea (162)
- Spain (163)
- Sri Lanka (164)
- Sudan (165)
- Suriname (166)
- Swaziland (167)
- Sweden (168)
- Switzerland (169)
- Syrian Arab Republic (170)
- Tajikistan (171)
- Thailand (172)
- The former Yugoslav Republic of Macedonia (173)
- Timor-Leste (174)
- Togo (175)
- Tonga (176)
- Trinidad and Tobago (177)
- Tunisia (178)
- Turkey (179)
- Turkmenistan (180)
- Tuvalu (181)
- Uganda (182)
- Ukraine (183)
- United Arab Emirates (184)
- United Kingdom of Great Britain and Northern Ireland (185)
- United Republic of Tanzania (186)
- United States of America (187)
- Uruguay (188)
- Uzbekistan (189)
- Vanuatu (190)
- Venezuela, Bolivarian Republic of... (191)
- Viet Nam (192)
- Yemen (193)
- Zambia (580)
- Zimbabwe (1357)
Q8 Facial Feature Test 1  The Status Ladders  When answering the following questions, think of the red ladder below as representing where people stand in their community. People define community in different ways; please define it in whatever way that is most meaningful to you. At the top of the ladder are the people who have the highest standing in their communities and at the bottom are those who have the lowest standing in their communities. On the sliding scale in the questions below, a ten represents a position at the very top of this ladder and a zero represents a position at the very bottom.

Think of the yellow ladder below as representing where people stand in society. At the top of the ladder are the people who are the best off - those with the most money, the most education and the most respected jobs. At the bottom are the people who are worst off - those with the least money, the least education and the least respected jobs or no job at all. The higher up a person is on this ladder the closer they are in wealth, education and respect to those at the top and the lower down they are, the closer they are in wealth, education and respect, to those at the bottom. On the sliding scale in the questions below, a ten represents a position at the very top of this ladder and a zero represents a position at the very bottom.
Q9 Person 1 - Where would you place this person on the ladders described above?

______ Where would you place this person on the red, community ladder? (1)
______ Where would you place this person on the yellow, society ladder? (2)
Q10 Person 2 - Where would you place this person on the ladders described above?

______ Where would you place this person on the red, community ladder? (1)
______ Where would you place this person on the yellow, society ladder? (2)

Q11 Person 3 - Where would you place this person on the ladders described above?

______ Where would you place this person on the red, community ladder? (1)
______ Where would you place this person on the yellow, society ladder? (2)

Q12 Person 4 - Where would you place this person on the ladders described above?

______ Where would you place this person on the red, community ladder? (1)
______ Where would you place this person on the yellow, society ladder? (2)
Q13 Person 5 - Where would you place this person on the ladders described above?

______ Where would you place this person on the red, community ladder? (1)
______ Where would you place this person on the yellow, society ladder? (2)

Q14 Person 6 - Where would you place this person on the ladders described above?

______ Where would you place this person on the red, community ladder? (1)
______ Where would you place this person on the yellow, society ladder? (2)

Q15 Person 7 - Where would you place this person on the ladders described above?

______ Where would you place this person on the red, community ladder? (1)
______ Where would you place this person on the yellow, society ladder? (2)
Q16 Person 8 - Where would you place this person on the ladders described above?

______ Where would you place this person on the red, community ladder? (1)
______ Where would you place this person on the yellow, society ladder? (2)

Q17 Person 9 - Where would you place this person on the ladders described above?

______ Where would you place this person on the red, community ladder? (1)
______ Where would you place this person on the yellow, society ladder? (2)

Q18 Person 10 - Where would you place this person on the ladders described above?

______ Where would you place this person on the red, community ladder? (1)
______ Where would you place this person on the yellow, society ladder? (2)

(Condition 1)
Q19 Facial and Bodily Reaction Video  Please watch this video, paying particular attention to facial and bodily reactions, and answer the questions that follow. Its important to our data that you watch the whole thing and don't skip. It takes three and a half minutes:

https://www.youtube.com/watch?feature=player_embedded&v=6CkU1mcZudU

Q47 Timing
   First Click (1)
   Last Click (2)
   Page Submit (3)
   Click Count (4)

OR
(Condition 2)
Q20 Facial and Bodily Reaction Video  Please watch this video, paying particular attention to facial and bodily reactions, and answer the questions that follow. Its important to our data that you watch the whole thing and don't skip. It takes a three and a half minutes:

https://www.youtube.com/watch?feature=player_embedded&v=Rbs0H2ubCK4

Q48 Timing
   First Click (1)
   Last Click (2)
   Page Submit (3)
   Click Count (4)
Q49 Facial and Bodily Reaction Questionnaire  Remember The Status Ladders? As before, think of the red ladder below as representing where people stand in their community. People define community in different ways; please define it in whatever way that is most meaningful to you. At the top of the ladder are the people who have the highest standing in their communities and at the bottom are those who have the lowest standing in their communities. On the sliding scale in the questions below, a ten represents a position at the very top of this ladder and a zero represents a position at the very bottom.

Think of the yellow ladder below as representing where people stand in society. At the top of the ladder are the people who are the best off - those with the most money, the most education and the most respected jobs. At the bottom are the people who are worst off - those with the least money, the least education and the least respected jobs or no job at all. The higher up a person is on this ladder the closer they are in wealth, education and respect to those at the top and the lower down they are, the closer they are in wealth, education and respect, to those at the bottom. On the sliding scale in the questions below, a ten represents a position at the very top of this ladder and a zero represents a position at the very bottom.
Q21 Where would you place Tom, the player on the left in the video, on the ladders described above?
   _____ Where would you place Tom on the red, community ladder? (1)
   _____ Where would you place Tom on the yellow, society ladder? (2)

Q22 Where would you place Eric, the player on the right in the video, on the ladders described above?
   _____ Where would you place Eric on the red, community ladder? (1)
   _____ Where would you place Eric on the yellow, society ladder? (2)
Q23 Facial Feature Test 2  The Status Ladders  When answering the following questions, think of the red ladder below as representing where people stand in their community. People define community in different ways; please define it in whatever way that is most meaningful to you. At the top of the ladder are the people who have the highest standing in their communities and at the bottom are those who have the lowest standing in their communities. On the sliding scale in the questions below, a ten represents a position at the very top of this ladder and a zero represents a position at the very bottom.

Think of the yellow ladder below as representing where people stand in society. At the top of the ladder are the people who are the best off - those with the most money, the most education and the most respected jobs. At the bottom are the people who are worst off - those with the least money, the least education and the least respected jobs or no job at all. The higher up a person is on this ladder the closer they are in wealth, education and respect to those at the top and the lower down they are, the closer they are in wealth, education and respect, to those at the bottom. On the sliding scale in the questions below, a ten represents a position at the very top of this ladder and a zero represents a position at the very bottom.
Q24 Person 1 - Where would you place this person on the ladders described above?

_____ Where would you place this person on the red, community ladder? (1)

_____ Where would you place this person on the yellow, society ladder? (2)
Q25 Person 2 - Where would you place this person on the ladders described above?

______ Where would you place this person on the red, community ladder? (1)
______ Where would you place this person on the yellow, society ladder? (2)

Q26 Person 3 - Where would you place this person on the ladders described above?

______ Where would you place this person on the red, community ladder? (1)
______ Where would you place this person on the yellow, society ladder? (2)

Q27 Person 4 - Where would you place this person on the ladders described above?

______ Where would you place this person on the red, community ladder? (1)
______ Where would you place this person on the yellow, society ladder? (2)
Q28 Person 5 - Where would you place this person on the ladders described above?

_____ Where would you place this person on the red, community ladder? (1)
_____ Where would you place this person on the yellow, society ladder? (2)

Q29 Person 6 - Where would you place this person on the ladders described above?

_____ Where would you place this person on the red, community ladder? (1)
_____ Where would you place this person on the yellow, society ladder? (2)

Q30 Person 7 - Where would you place this person on the ladders described above?

_____ Where would you place this person on the red, community ladder? (1)
_____ Where would you place this person on the yellow, society ladder? (2)
Q31 Person 8 - Where would you place this person on the ladders described above?

______ Where would you place this person on the red, community ladder? (1)
______ Where would you place this person on the yellow, society ladder? (2)

Q32 Person 9 - Where would you place this person on the ladders described above?

______ Where would you place this person on the red, community ladder? (1)
______ Where would you place this person on the yellow, society ladder? (2)

Q33 Person 10 - Where would you place this person on the ladders described above?

______ Where would you place this person on the red, community ladder? (1)
______ Where would you place this person on the yellow, society ladder? (2)

Q34 Thank you! We’re done now, many thanks for your time. A small donation will be made to charity for every valid and complete questionnaire. If
you have any comments on this study please submit them by way of the box below. Please proceed to the debriefing page.

Q47 Debriefing page  We can now inform you that, in order to prevent a biased response to the questions, some deception was used in this study. At the outset, you were told that the study is concerned with the effect of involuntary facial and bodily reactions on our perception of social status. This is not true. The true aim of the study is to establish whether or not a link exists between social impact (in this case, one person giving a simulated electric shock to another) and social status. In the video you watched, one person was shocked more than the other, and the study aims to find out whether or not this imbalance causes observers to attribute a lower social status to them than they otherwise would. Please note that the shocks were not real, and the responses were acted. In the interests of obtaining accurate results, we ask that you do not reveal this minor deception to others. Once again, we are very grateful for your participation. If you are distressed in any way as a result of taking part in this survey please feel free to contact the researcher at XXXXX.ie or your GP.
Appendix B

The McArthur Scale of Subjective Status
Community comparison of social standing

Think of this ladder as representing where people stand in your community. People define community in different ways; please define it in whatever way is most meaningful to you. Imagine everyone in your community is standing somewhere on this ladder. At the TOP of the ladder are the people who have the highest standing in your community. At the bottom are the people who have the lowest standing in your community. The higher up you are on this ladder, the closer you are to those at the very top. The lower you are, the closer you are to those at the very bottom. Where would you place yourself on this ladder, compared to others in your community? Please place a large “X” directly on the rung where you think you stand.
U.S. comparison of socio-economic status
Think of this ladder as representing where the people stand in the United States. At the TOP of the ladder are the people who are the best off—those who have the most money, the most education, and the most respected jobs. At the BOTTOM are the people who are the worst off—who have the least money, least education, and the least respected jobs or no job. The higher up you are on this ladder, the closer you are to the people at the very top. The lower you are, the closer you are to the people at the very bottom.

Where would you place yourself on this ladder, compared to all the other people in the United States? Please place a large “X” directly on the rung where you think you stand.
Appendix C

Video Script
SEQUENCE 1

FADE IN:

INT – LAB

2 Players, Tom (M.J., left) and Erik (Freigeist, right) sitting opposite each other at a square table, each with right hand poised over a button, from which a wire extends to a strap on the index finger of the left hand of his opponent. There is a referee, standing in between the players, directly opposite the camera, his face is out of shot.

Note: All dialogue below is merely suggested, the sequences must be viewed as real and not acted and so, where appropriate, improvised dialogue should be used. Other than for the differences documented below, sequence 2 should be as close to identical to sequence 1 as possible and so this scene should contain duplicates of the improvised responses in sequence 1.

The electric shocks are mild, (approx. 45 to 50v) similar to, or slightly stronger than the real “sample shocks” given to participants in the infamous Milgrim experiment. These can be viewed at 3:26 here: http://www.youtube.com/watch?v=4b7YFiE5EA and at 2:26 here: http://www.youtube.com/watch?v=y6GxIuljT3w and both players should react with similar magnitude to the shocks.

Erik & Tom are not close friends but they are comfortable in each other’s company and, while they may show good humoured discomfort with being shocked, they may also show some relief or positive affect with not being shocked.

Note: words or phrases implying dominance of one or other party (“Tom wins”, “Erik beat’s Tom”, “and the winner is...”) must be avoided.

Referee:
(Explains the set up, something like:) On my left here is Erik and on my right is Tom. As you can see, each player controls a switch with their right hand that is connected to a strap on the finger of their opponents left hand. When they press the switch, their opponent will get a mild shock – nothing too severe but you’ll feel it. Guys, I will throw a die for each of you and whoever gets the highest score gets to buzz his opponent. OK, ready to go?

(T&E improvise positive responses)
(ROUND 1)

Referee:
Ok, here we go, I’m gonna’ throw Erik first.

Referee throws the die

Referee:
OK, four. Now Tom (throws) …two. Erik you get to buzz.

Erik buzzes Tom, Tom improvises shock

(ROUND 2)

Referee:
Round two, throwing Tom first this time (throws)... five
Now Erik (throws)... two, Tom gets to buzz

Tom buzzes Erik, Erik improvises shock

(ROUND 3)

Referee:
Ok, Erik first this time (throws)... six (Note: players react appropriately!)
Now Tom (throws)... four, Erik your buzz

Erik buzzes Tom, Tom improvises shock

(ROUND 4)

Referee:
Ok, Tom’s turn to go first (throws)... Tom gets a three
Erik (throws)... gets a four, Erik to buzz

Erik buzzes Tom, Tom improvises shock

(ROUND 5)

Referee:
Ok, next round (throws)... a three for Erik
And (throws)... a three for Tom. Tom, you buzz

(ROUND 6)

Referee:
We’ll try that again... Tom gets a (throws)...three
And Erik (throws)...gets two, Tom’s buzz
Tom buzzes Erik, Erik improvises shock

Note: Sequence 1 is as follows:

<table>
<thead>
<tr>
<th>Round</th>
<th>Erik</th>
<th>Tom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round 1</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Round 2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Round 3</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Round 4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Round 5</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Round 6</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>21</td>
</tr>
</tbody>
</table>

(green shading shows first throw)
SEQUENCE 2

FADE IN:

INT – LAB

This sequence is identical to the above with the exception of round four (now a draw: 4 - 3 to Erik) and round six (Now 4 - 1)

Referee:
(Makes exact same introduction as sequence 1)

T&E give same positive responses as for sequence 1

(ROUND 1)

Referee:
Ok, here we go, I’m gonna’ throw Erik first.

Referee throws the die

Referee:
OK, four. Now Tom (throws) …two. Erik you get to buzz.

Erik buzzes Tom, Tom gives same shock response as for round 1 sequence 1

(ROUND 2)

Referee:
Round two, throwing Tom first this time (throws)... five
Now Erik (throws)... two, Tom gets to buzz

Tom buzzes Erik, Erik gives same shock response as for round 2 sequence 1

(ROUND 3)

Referee:
Ok, Erik first this time (throws)... six (Note: players react appropriately!)
Now Tom (throws)... four, Erik your buzz

Erik buzzes Tom, Tom gives same shock response as for round 3 sequence 1

(ROUND 4)

Referee:
Ok, Tom’s turn to go first (throws)... Tom gets a three
Erik (throws)... gets a four, Erik to buzz

Erik buzzes Tom, Tom gives same shock response as for round 4 sequence 1
(ROUND 5)

Referee:
Ok, next round (throws)... a three for Erik
And (throws)... three for Tom, a draw – we'll go again.

(ROUND 6)

And Tom gets a (throws)... four
And Erik (throws)... gets one, Tom's buzz

Tom buzzes Erik, Erik gives same shock response as for round 6 sequence 1

Note: Sequence 2 is as follows:

<table>
<thead>
<tr>
<th></th>
<th>Erik</th>
<th>Tom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round 1</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Round 2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Round 3</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Round 4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Round 5</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Round 6</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>21</td>
</tr>
</tbody>
</table>

(green shading shows first throw)

______________________________________________________________________________

Sequence 3 – If we have time...

<table>
<thead>
<tr>
<th></th>
<th>Erik</th>
<th>Tom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round 1</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Round 2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Round 3</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Round 4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Round 5</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Round 6</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>21</td>
</tr>
</tbody>
</table>

(green shading shows first throw)