

## Changing Negative Perceptions of Individuals with Facial Disfigurement:

### The Effectiveness of a Brief Intervention

Dr Anna Stone \* and Ms Veronica Fisher <sup>1</sup>

Running Head: Changing perceptions facially disfigured

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\* Corresponding author:

Dr Anna Stone  
School of Psychology  
University of East London  
Stratford  
London, E15 4LZ  
UK  
[A.Stone@uel.ac.uk](mailto:A.Stone@uel.ac.uk)  
Phone: +44 (0) 208 223 4452

<sup>1</sup> Ms Veronica Fisher  
Psychological and Brain Sciences  
Boston University  
64 Cummington Mall  
Boston  
Massachusetts 02215  
USA

## **Abstract**

Can a brief personal narrative by an individual with facial disfigurement enhance perceptions of their skills and personality? Participants (n=224) mainly from Europe and the USA completed the study online. Four experimental conditions presented either a video clip or the audio soundtrack, relating either a positive message or a message about overcoming adversity. In the control condition participants viewed a still facial photograph. Evaluations of sociability and resilience, emotional stability, leadership, and success in forming relationships, and expectations regarding future interactions, were all enhanced by the personal narratives compared to the still photograph. Experimental conditions did not differ from each other. It appears that a brief online intervention can be effective in encouraging future contact with individuals with facial disfigurement.

Keywords: person perception; social cognition; stigmatization; prejudice reduction; facial disfigurement

The authors declare no competing interests in the conduct of this research.

## Introduction

Facial disfigurement impacts 1 out of 111 people in the United Kingdom (Partridge & Julian, 2008). Organizations including Changing Faces are using social media platforms as well as web-based advertising campaigns to raise awareness of, destigmatise, and restructure cultural attitudes towards, facial disfigurement. Representations of individuals with facial disfigurement are used as a means of simultaneously spreading information, presenting affirmative messages, and exposing the general population to the full range of human appearance. While it seems plausible that constructive representations of individuals with facial disfigurement would lead to more positive attitudes, there is a lack of systematic research into the efficacy of these campaigns. The present study was designed to take initial steps in understanding how the medium (audio or video) and content of the message can influence the efficacy of media representations of individuals with facial disfigurement in achieving attitude change.

The general presumption is that an anomalous face will tend to be evaluated negatively on key dimensions (e.g., the review by Zebrowitz & Montepare, 2008). There are extensive and consistent reports of negative reactions experienced by people with facial disfigurement (e.g., Clarke, 1999; Clarke, Thompson, Jenkinson, Rumsey, & Newell, 2014; Hearst & Middleton, 1997; Hodge, 2017; Rumsey & Harcourt, 2004). In contrast, there are relatively few empirical studies measuring evaluations of, and attitudes towards, people with facial disfigurement, but those that could be located support this general presumption. Poorer evaluations of sociability and social confidence resulted from the addition of a small scar (Bull & David, 1986) or a port-wine stain (Stevenage & McKay, 1999) to the face. More recent research has added emotional instability to the common perception of individuals with facial disfigurement (e.g., Stone & Wright, 2012; Stone & Potton, 2017) as well as confirming the assumptions of poor social skills and confidence. These findings are reminiscent of the meta-analysis of studies investigating evaluations of people with unattractive, though not disfigured, faces (Eagly, Makhijani, Ashmore, & Longo, 1991) and consistent

with the premium placed on attractiveness in our society (e.g., Andreoni & Petrie, 2008; Dijker & Koomen, 2001; Judge, Hurst, & Simon, 2009; Solnick & Schweitzer, 1999).

Several studies have reported negative emotional reactions from non-disfigured participants in experimental studies. For example, Stone and Wright (2012) reported that implicit affective attitudes were strongly negative towards individuals with facial disfigurement compared to the same target individuals without disfigurement. Participants in other studies (e.g., Kleck & Strenta, 1985; Madera, 2016; Shanmugarajah, Gaiind, & Clarke, 2012; Stone & Potton, 2014) have all reported experiencing negative emotions, including disgust, when viewing still photographs of people with facial disfigurement. Explanations for these negative emotional reactions are typically based on evolutionary theorising about the survival benefits of avoiding an individual with a facial disfigurement, given that faces are often indicative of developmental challenges and current health status (Jones, Kramer, & Ward 2012; Thornhill & Gangestad, 1993; Zebrowitz, Hall, Murphy, & Rhodes, 2002). It may be advantageous to avoid an individual who could have an infectious disease or a weak immune system (Ackerman, Becker, & Mortensen, 2009; Dijker & Raeijmaekers, 1999; Kurzban & Leary, 2001; Ryan, Oaten, Stevenson, & Case, 2012; Schaller & Neuberg, 2012). The negative emotional reactions experienced by perceivers promote the avoidance of an individual with a disfigured face. Along related lines, Blascovitch, Mendes, Hunter, Lickel and Kowai-Bell (2001) reported physiological responses typical of reactions to threat in participants who were asked to interact with a confederate with a facial disfigurement.

To summarise so far: poor expectations of social skills, prejudicial assumptions about emotional instability, and negative emotional reactions, all suggest that members of the general public would tend to have reservations about interacting with an individual with facial disfigurement. It is plausible to assume that reservations might translate into behavioural avoidance; for example, Hebl, Tickle and Heatherton (2003) discuss how prejudicial assumptions about the social skills of individuals with facial disfigurement can impact negatively on social interactions.

Intergroup anxiety was proposed by Stephan (2014) as the major underlying cause of behavioural avoidance of members of an outgroup. Intergroup anxiety can be generated by negative stereotypes and expectations of the outgroup and perceptions of threat from members of the outgroup (e.g., Stephan & Stephan, 2000). Intergroup anxiety is comprised of multiple components: affective reactions, including anxiety about future contact; cognitive, especially lack of knowledge about the outgroup; and physiological reactions to perceived threat. Intergroup anxiety is then expressed in the form of negative affect (e.g., Madera, 2016; Shanmugarajah et al, 2012; Stone & Potton, 2014) and is likely to lead to behavioural avoidance (e.g., Shook & Fazio, 2008; Stephan & Stephan, 2000). The literature reviewed in the previous paragraphs suggests that negative stereotypes and expectations of people with facial disfigurement, particularly around social skills and emotional stability, combined with physiological threat responses and concern at the prospect of interaction, would be likely to occur. Hence it seems like there would be a level of intergroup anxiety when contemplating interaction with someone with a facial disfigurement.

This results in a self-sustaining cycle in which behavioural avoidance precludes the possibility of direct contact, which has been found to improve expectations of outgroup members (e.g., Devine, 1989; Dijker & Raeijmaekers, 1999; Grandfield, Thomson, & Turpin, 2005; Pettigrew & Tropp, 2006). Hence there are restricted opportunities for learning more positive views of the outgroup members, leading to continued levels of intergroup anxiety that in turn continue to cause behavioural avoidance. Discrimination in employment (e.g., Rumsey & Harcourt, 2004; Stone & Wright, 2012) results in reduced opportunities for meeting people with facial disfigurement on an equal footing in a setting that encourages social interaction. The meta-analysis of contact studies by Pettigrew and Tropp (2006) confirmed that lack of previous contact had the effect of increasing intergroup anxiety which led to lowered incentive for future contact.

One potential resolution to the cycle of avoidance is suggested by evidence that indirect as well as direct contact can be effective. For example, Dasgupta and Greenwald (2001) reported that

implicit prejudice against members of a disadvantaged social group was reduced when participants were exposed to positive exemplars of the social group. Reinke, Corrigan, Leonhard, Lundin, and Kubiak (2004) presented participants with either in vivo contact or a video message of a stigmatised individual and observed that both had the effect of reducing the desired social distance. These results were attributed to the emotional reactions invoked by the positive portrayal of characters belonging to the disadvantaged group. Other studies have shown that indirect contact in the form of electronic communication reduces intergroup anxiety and increases knowledge of the outgroup (White & Abu-Rayya, 2012) and the reduction of intergroup anxiety can predict direct contact (e.g., Wolfer, Schmid, Buchallik, Christ, Tausch, Vertovec, & Hewstone, 2018; Study 3). Several researchers have theorised that the reduction in intergroup anxiety (Stephan, 2014) or the enhancement of contact confidence, a form of self-efficacy (Turner & Cameron, 2016) inversely related to intergroup anxiety, are key mediating factors in the effects of intergroup contact. Pettigrew and Tropp (2006) theorised that reducing intergroup anxiety must happen before the subjective ingroup can be expanded to include members of the former outgroup.

Indirect contact is particularly useful as it allows cognitive restructuring and replacement of stereotypical assumptions with more nuanced and positive views, without invoking the physiological stress that might accompany an actual encounter (e.g., Blascovitch et al, 2001). The physiological stress and negative emotion that could hamper a face-to-face interaction would be less problematic with indirect contact.

Looking specifically at facial disfigurement, research into the efficacy of campaigns aimed at changing public opinion and behaviour is limited. Bogart and Tickle-Degnen (2015) reported that educating participants using media messages resulted in more positive attitudes towards people with facial disfigurement. However, looking at reducing stigma towards people with mental illness, a meta-analysis of 13 intervention studies all using randomised controlled trials showed that contact elicited a larger effect than education in reducing stigma (Corrigan, Morris, Michaels, Rafacz, &

Rusch, 2012, Table 2 on p968). Effects on stigma were measured by attitudes (e.g., dangerousness, competence, responsibility, and poor prognosis), affect (e.g., fear, anger, and pity) and behavioural intentions (principally avoidance). This suggests that contact in some form might be the most effective means of reducing stereotypically prejudicial expectations and beliefs about people with facial disfigurement.

Taking these studies into account, the present study used indirect contact in the form of video and audio clips which focused on presenting evidence of social skills and confidence, and emotional strength, to directly challenge the popular stereotype of individuals with facial disfigurement as lacking in these respects. The video and audio clips presented short narratives in which people with facial disfigurement spoke about themselves in their own words. The narratives were edited to present the individuals as socially confident and emotionally stable people in order to alleviate concerns about these factors while also increasing familiarity with the visual appearance. The clips were expected to help to reduce intergroup anxiety and thus to promote the possibility of future interaction.

By revealing the kinds of concerns and desires commonly experienced by the general population these narratives might help the observer to perceive similarities between people with facial disfigurement and themselves. This would encourage cognitive recategorization, in which members of the outgroup are reconceived as part of an expanded ingroup (e.g., Dovidio, Gaertner & Saguy, 2009) via the process of assimilation (Gaertner & Dovidio, 2010; common ingroup identity model). According to Wolfer et al (2018) indirect contact can help to promote the cognitive inclusion of the other person in the ingroup with which the individual identifies.

Two different types of message tone were considered: a consistently positive message tone and one that describes how the individual has overcome adversity in their life. Though positive messages keep the tone of the message light and upbeat, it has been found that tension in a story can increase the degree of empathy felt towards the main character in the story (Barazza & Zak,

2009) which could enhance the overall impact. Similarly, the philosopher Aristotle noted that a good story needs an event that engages emotion, followed by the consequences and conflicts of the event, and finally the resolution (described in James, 2014). The findings of Reinke et al (2004) suggested that a message designed to moderately disconfirm a stereotype may be more effective than a message designed for strong disconfirmation, which might suggest that a message about overcoming adversity, insofar as it acknowledges the adversity, could be more effective than an entirely positive message. This reasoning might suggest that a story detailing how the narrator overcame adversity would result in more identification and a more positive evaluation compared to a uniformly positive message. On the other hand, the description of challenges faced by the individual with facial disfigurement could serve to highlight the difficulties they face and emphasise their difference. Hence, it was not clear which type of message would be more effective in improving perception of individuals with facial disfigurement. Both types were used in the present study.

The medium through which a message or campaign is delivered may also be important in determining participant engagement and perception. Rich media content, typically video, is more highly correlated with higher concentration levels (Liu, Liao, Pratt 2009). On the other hand, studies have found poorer recall of the informational content of a video clip containing a person with facial disfigurement compared to one containing a non-disfigured individual (Madera & Hebl, 2012; Stevenage & Furness 2008), which suggests that the presence of a disfigurement may hold the audience's attention. If that were to be the case then a video clip might be less effective in changing attitudes than an audio clip containing the same verbal information.

The meta-analysis by Davies, Tropp, Aron, Pettigrew, and Wright (2011), including 208 separate samples, reported that participants who had friends belonging to an outgroup had less prejudice towards the outgroup compared to those without outgroup friends, though the overall effect size was small. Similar results were observed by Stone and Wright (2012) and Stone and Potton (2014). This was also investigated in the present study.



Participants were presented with audio-only or video-plus-audio versions of messages depicting either positive experiences or overcoming adversity, delivered as personal narratives by facially disfigured individuals. Subsequently the participants evaluated key personal traits of the depicted individuals including perceived emotional stability, social skills, and expected relationship success, as well as reporting their emotional experiences in the experiment, how they thought they could cope if they or someone close to them acquired a disfigurement, their attitudes towards future contact, and the perceived efficacy of the messages in destigmatising facial disfigurement. A control condition comprising a simple facial photograph of the target individual was included for comparison. The aim was to ascertain the most effective message type and medium to destigmatise, and change attitudes towards, facial disfigurement.

The hypotheses were as follows: *Hypothesis 1*: All narratives will change evaluations and future expectations in a positive direction compared to the still photograph control condition. *Research question 2* asked whether efficacy would differ according to the type of message; either the struggle to overcome adversity or a positive message. *Research question 3* asked whether efficacy would differ according to the medium of the message; either audio alone or video with audio. *Hypothesis 4*: Evaluations will be more positive from participants who are acquainted with someone with a facial disfigurement.

## **Method**

### ***Participants***

There were 224 participants, 69 male (31%) and 155 female (69%), with a mean age of 27 years (SD 10.6 years) ranging from 18 to 70. The largest national group were British (121) followed by USA (23), with 51 from other European countries, 6 from Central and South America, 6 from Africa, 10 from Asia, 1 from Canada, 1 from Australia, and 5 unclassifiable. Of the sample, 61 (27%) were acquainted with someone with a facial disfigurement.

## **Design**

There were two independent variables: media type (video or audio or still photograph) and message type (positive message or overcoming adversity or still photograph). In the still photograph control condition participants viewed a facial photograph of an individual with facial disfigurement. Participants were randomly assigned to conditions so that roughly equal numbers of participants experienced each of the five conditions: video-positive, video-adversity, audio-positive, audio-adversity, and still photograph (control). There were four individuals with facial disfigurement: Victoria, Turia, Leo, and Jon. These individuals were fully counterbalanced across conditions, with each being viewed an approximately equal number of times.

Eight dependent variables were each calculated as the mean of a set of individual items. The first four dependent variables were based on evaluations of the target individuals: *sociable-resilient* (outgoing, friendly, happy, resilient, coping well); *relationships* (lots of friends, success in forming intimate relationships, successful, inverse of socially awkward); *leadership* (strong leader, inspirational, trustworthy, inverse of poor interpersonal skills); and *emotionally stable* (inverse of: easily upset, sensitive, and emotionally unstable). The individual items were chosen from those used in previous studies (e.g., Stevenage & McKay, 1999; Stone & Wright, 2012) and extensive reference to the literature. The items focused on aspects of competency rather than warmth, since previous research has suggested that individuals with facial disfigurement may be evaluated more positively than those without disfigurement on the warmth dimension (e.g., Stone & Wright, 2012), interpreted as part of the general “norm to be kind” that leads to higher evaluations on traits that do not require any particular skill or competence (Nordstrom, Huffaker, & Williams, 1998; Stone & Colella, 1996). Since the purpose of the present study was to examine how to best improve perceptions of individuals with facial disfigurement, the individual items of evaluation focused on components of competency, where negative evaluations are common, rather than warmth. The combinations into the four dependent variables were derived from a-priori reasoning and confirmed by a factor analysis of the data in the present study.

The other four dependent variables were: *participant experience* (I felt uncomfortable, I found the disfigurement distracting, I felt sorry for this person; all reverse scored); *participant coping* (I would not be able to cope well if something like this happened to me / one of my loved ones (both reverse scored); *future interaction* (I now feel more positive about individuals with facial disfigurement, I would be less anxious about interacting with someone with a facial disfigurement, and I would be more likely to be friends with someone with a facial disfigurement); *efficacy* (this clip would be an effective means of spreading awareness about disfigurement / destigmatising disfigurement / normalising disfigurement). The items comprising *participant experience* were chosen according to the literature and self-report of emotional reactions from participants in previous experiments. The item “I felt uncomfortable” was derived from emotional reactions in which participants had reported feeling anxious, embarrassed, and repulsed. The item “I felt sorry for this person” was derived from reports of feelings of sorrow and sympathy. The item “I found the disfigurement distracting” was based on observations that facial disfigurement attracts and holds attention and leads to a reduction in recall of the factual content of an interview (e.g., Madera & Hebl, 2012; Stone & Pottton, 2017). The items comprising *future interactions* measure the concept of intergroup anxiety. The items comprising *participant coping* were included to see how far the participant might identify with the target individual.

### **Materials**

Videos of Victoria Wright, Leo Gormley, Jon Lancaster, and Turia Pitt were compiled and edited using videos publicly available on Youtube (originally published by the NHS and BBC) using iMovie. For each individual, there were two videos created from one or more separate online videos. In one video, the person speaks about his/her positive experiences and successes, and in the other video the person speaks about struggles he/she has faced and overcome. Each video is under two minutes in length. The videos were shown to three colleagues who concurred that the positive videos were uniformly positive in tone and that the overcoming-adversity videos gave significant mention to struggles and how they were overcome.

Victoria Wright has cherubism, a genetic disorder which has affected her eyes and the formation of her jaw. In the positively messaged video, Victoria discusses her successes in life, including her career and social relationships, as well as who she is as a person and how she handles other people's reactions to her facial disfigurement. In the video in which she discusses her struggles, Victoria speaks about other people's assumptions about her and some of the challenges she faced growing up. The video with a positive message is 1 minute 36 seconds long, and the video about her struggles is 1 minute 38 seconds long.

Leo Gormley sustained facial burns during a childhood accident. In the positively messaged video, Leo talks about how he does not see himself as different, and definitive moments in his life that have led to success and happiness. In the video in which he speaks about his struggles, Leo alludes to a deep depression and mental barriers he eventually overcame. The video with a positive message is 1 minute 54 seconds, and the video about his struggles is 2 minutes long.

Jon Lancaster has Treacher-Collins syndrome, a genetic condition which has affected his cheeks, eyes, mouth, and hearing. In the positively messaged video, Jon speaks about his confidence and self-love, as well as the successes in his life on the whole. In the video in which he talks about his struggles, Jon discusses difficulties with self-confidence and acceptance growing up, as well as less than positive experiences he has encountered in his adult life. The video with a positive message is 1 minute 34 seconds, and the video about his struggles is also 1 minute 34 seconds long.

Turia Pitt sustained burns to her face and body from a bush fire while running an ultramarathon. In the positively messaged video, Turia talks about her supportive fiancée and all of the things she has accomplished since the fire. In the video in which she speaks about her struggles, Turia discusses overcoming mental and physical barriers and her recovery process. The video with a positive message is 1 minute 48 seconds long and the video about her challenges is 1 minute 55 seconds long.

## **Procedure**

Participants were recruited via websites including Surveycircle.com, Callforparticipants.com, and the Changing Faces organisation, as well as email, Facebook, and the University of East London psychology forum. Ethical approval was granted prior to sending out the invitation to participate. Data collection took place between March 2018 and March 2019. The entire experiment was run online.

After reading the information sheet and giving informed consent to participate, participants were presented with either a video clip, an audio clip, or a still photograph of an individual with a facial disfigurement (as described above). After viewing or listening to the clip or image, participants were asked questions about their perceptions of the individual portrayed, as well as the participant's experience in the experiment, their likely future interactions, and perceived efficacy of the intervention. Afterwards, participants were asked to complete demographic questions about age, gender, and nationality. The survey typically took around 10 minutes to complete.

## **Results**

Raw data was filtered for incomplete or anomalous responses (e.g. repeated use of a single response option, or unrealistically fast responses), which resulted in the exclusion of 8 participants.

The dependent variables were calculated as explained in the Method. All these dependent variables were approximately normally distributed and all were scored in a positive direction. Please refer to Table 1 for the descriptive statistics and the effect sizes of the differences between the experimental conditions and the control condition (still photograph).

For all dependent variables the pattern of results suggested the positive and overcoming adversity messages yielded similar effects, which were more favourable than the control condition. Similarly, the pattern of means suggested that the audio and video messages both yielded similar results, which were more favourable than the control condition. The effect sizes were very large (greater than 1) for *sociable-resilient*, *relationships*, *leadership*, and *efficacy*; large (greater than 0.6)

for *participant experience* and *future interaction*; moderate (greater than 0.5) for *emotionally stable*; and negligible for *participant coping*. The only substantial difference between the positive message and overcoming adversity message was on the variable *relationships*, where the positive message yielded more favourable evaluations with an effect size of 0.41. There were no appreciable differences between the audio and video messages.

Table 1

	Control (still photo)	Positive message	Adversity message	Audio message	Video message	Mean Effect size: message vs. Control	Know some- one	Not know some- one	Effect size: know some- one
Sociable- resilient	4.74 (0.91)	5.74 (0.83)	5.59 (0.93)	5.62 (0.84)	5.71 (0.92)	1.04	5.53 (1.04)	5.72 (0.84)	-0.20
Relation- ships	3.85 (0.88)	5.06 (0.91)	4.67 (1.02)	4.85 (1.00)	4.88 (0.98)	1.10	5.08 (1.08)	4.81 (0.98)	0.26
Leadership	4.35 (0.98)	5.52 (0.75)	5.44 (0.75)	5.39 (0.72)	5.55 (0.77)	1.29	5.74 (0.69)	5.42 (0.74)	0.45
Emotionally stable	4.15 (0.75)	4.80 (1.06)	4.51 (0.89)	4.73 (1.02)	4.59 (0.95)	0.57	4.91 (1.08)	4.60 (0.93)	0.31
Participant experience	4.18 (1.58)	5.06 (1.17)	4.99 (1.16)	5.12 (1.07)	4.94 (1.24)	0.61	5.15 (1.28)	4.97 (1.14)	0.15
Participant coping	3.63 (1.61)	3.63 (1.61)	3.67 (1.64)	3.69 (1.66)	3.72 (1.60)	0.04	4.22 (2.00)	3.53 (1.49)	0.39
Future interaction	4.43 (0.96)	5.20 (1.26)	5.21 (1.06)	5.21 (1.15)	5.20 (1.18)	0.85	5.16 (1.50)	5.24 (1.08)	0.06
Efficacy	4.38 (1.44)	5.84 (0.97)	5.73 (1.08)	5.65 (1.03)	5.90 (1.01)	1.12	5.67 (1.25)	5.83 (0.89)	-0.15

*Table 1: mean and (s.d.) of the eight dependent variables, calculated for the positive message and the overcoming adversity message (collapsed over audio and video) and for the audio message and the video message (collapsed over message type). The last three columns show the participants with and without a personal acquaintance with facial disfigurement, and the effect size of the difference. Effect sizes are shown as Cohen's D.*

Figure 1: evaluations, participant experiences, and future expectations

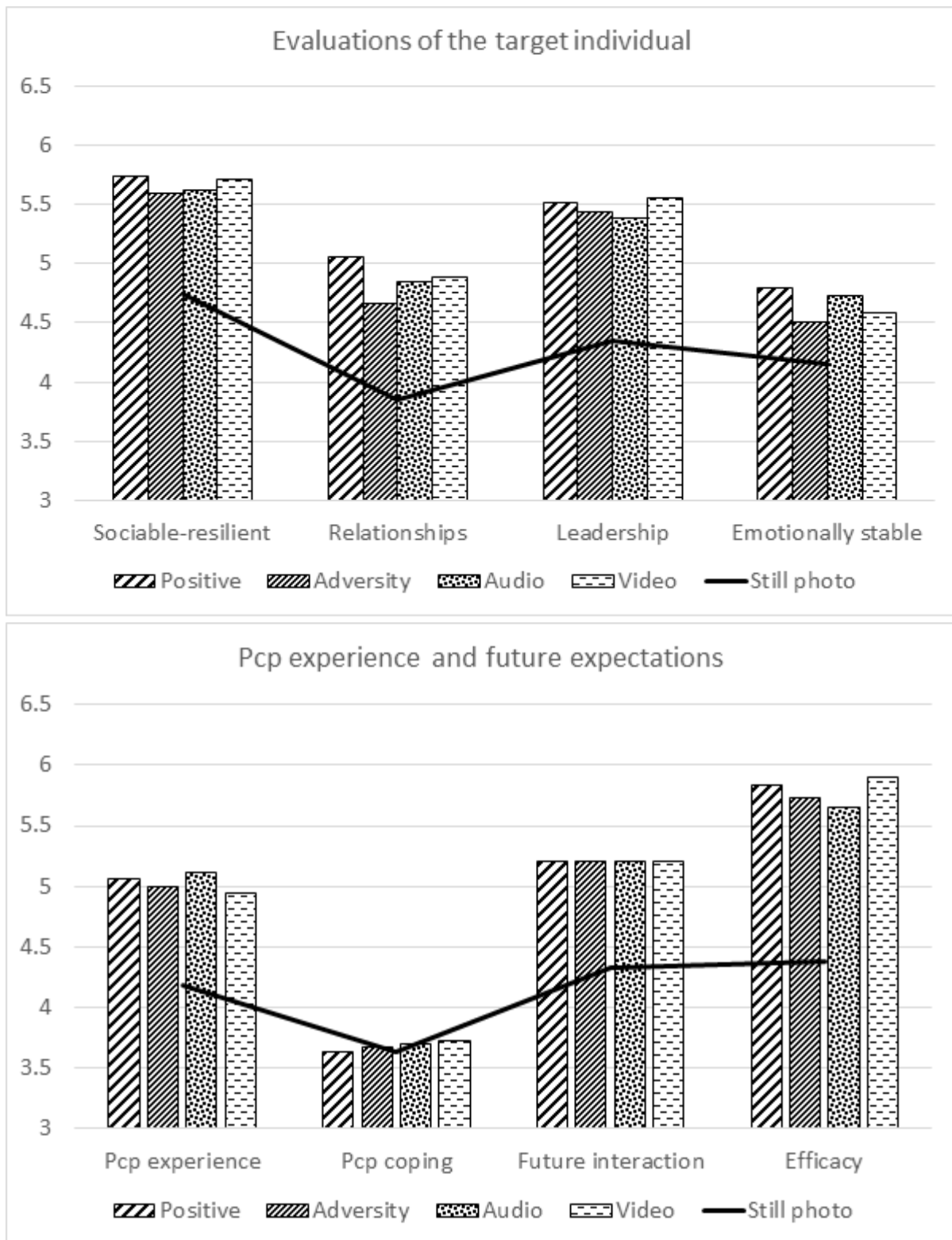


Figure 1: means of the eight dependent variables calculated for the positive message and the overcoming adversity message (collapsed over audio and video) and for the audio message and the video message (collapsed over positive and overcoming adversity). Top panel: evaluations of the target individual. Bottom panel: participant experience and future expectations. The solid black line marks the still photograph control condition.

This provides strong support for Hypothesis 1 which predicted that all experimental conditions would yield more positive evaluations than the control condition. Regarding Research Questions 2 and 3 there was little support for any difference between the positive and overcoming-adversity messages or for any difference between audio and audio+video messages.

Hypothesis 4 predicted that more favourable evaluations would be given by those participants who were acquainted with someone with a facial disfigurement than by these participants who were not. Examination of the effect sizes in Table 1 suggests that this prediction was partially supported, with medium effects of the variables *leadership* (effect size 0.45), and *participant coping* (0.39), and small effects of the variables *emotionally stable* (0.31) and *relationships* (0.26).

Post-hoc comparisons were performed to compare the evaluations of male and female target individuals. These yielded the result that the females were evaluated more favourably than the males on variables *sociable-resilient* (effect size 0.45), *relationships* (effect size 0.62), and *leadership* (effect size 0.44). These contrasts are generally in line with stereotypical gender differences.

Post-hoc comparisons revealed no difference according to the type of disfigurement, presented in this study as either burn scars or structural deviation of internal features from the norm.

Post-hoc comparisons revealed weak differences between male and female participants, with females giving higher ratings on the variables *emotionally stable* (0.26), and *efficacy* (0.20). Males gave higher ratings than females on the variables *participant experience* (0.37) and *participant coping* (0.33).

## **Discussion**

This pattern of results offers strong support for Hypothesis 1 which predicted that both message types (positive message and overcoming adversity) and both message media (video and



audio) would result in more favourable evaluations of the target individuals and more optimistic future expectations than the still photograph control condition. Effect sizes were generally large or medium, suggesting a strong impact. This was true for all outcome variables except the participant-coping variable that measured how participants thought they could cope if they or someone close to them acquired a disfigurement. It seems that hearing someone with a facial disfigurement tell their personal story in their own words results in more positive impressions of social skills and confidence, emotional stability, leadership skills, and the ability to form relationships. It is reasonable to assume that participants in the control condition, who only viewed a still photograph, would have made assumptions based on the target person's appearance, consistent with previous research (e.g., Stone & Wright, 2012; Stone & Potton, 2014). So, the results strongly suggest that the opportunity for indirect contact with the target individual via a video or audio message changed the participants' evaluations. The message also resulted in a more enjoyable participant experience in the study, more positive expectations for future interactions with individuals with facial disfigurement, and a favourable opinion of the efficacy of the intervention.

The presentation of information leading to more favourable evaluations of the target individuals, and the generation of more positive expectations for future interactions, tackle two factors underlying intergroup anxiety. Thus, the messages used in the present study would be expected to reduce levels of intergroup anxiety (Stephan, 2014) and to promote the prospect of future contact.

It is plausible that the impact of the narrative was enhanced by the background lack of contact with individuals with facial disfigurement. Most participants said they were not acquainted with anyone with a facial disfigurement and so are likely to have had limited previous contact. People with facial disfigurement are seldom represented in the media (Wardle & Boyce, 2009) and in popular culture (Pausch, Herzberg, Wirtz, Hemprich, Dhanuthai, Hierl, & Pitak-Arnnop 2012) and are less likely to be in employment (Stone & Wright, 2013). It seems likely that most participants'

responses in the still photograph control condition would have been based on little prior contact, and hence a relatively small amount of indirect contact could have had a major impact. This is consistent with other studies into impression formation (e.g., Asch, 1946; impression formation and the primacy effect) in which the first information relevant to a particular trait or set of traits for the target individual(s) has relatively large impact. Especially when there has been little previous contact of any kind, the presentation of a personal message from a person with facial disfigurement can have a major impact if this is the first time such a message has been experienced (e.g., Crawford, Sherman, & Hamilton, 2002; Smith & Zarate, 1992). This is especially the case when the message concerns a highly salient characteristic of the individual (Steinmetz, Toure-Tillery, & Fishbach, 2019).

This was true for all measures except how participants thought they could cope if they or someone close to them acquired a disfigurement. It seems a brief intervention, hearing from other people about how they lived and flourished, was insufficient to improve participants' projected ability to cope in this hypothetical future. It seems plausible that people in general might over-exaggerate the effect of having a facial disfigurement and underestimate their own resilience (Bonanno 2004). This explanation is speculative and must await future research in this area.

Research Question 2 was answered in the negative; there was almost no suggestion of any difference according to type of message, which varied between positive messages or messages about overcoming adversity. The literature did not permit a firm prediction here, so the reasons for the lack of effect cannot be determined with any certainty. It could be there was little effect of the type of story on most participants, or perhaps participants reacted differently to the competing influences of the two message types leaving no overall effect. Alternatively, since both messages ended on a positive note, perhaps the ending made the strongest impression on the participants according to a type of recency effect. The positive ending to each story may have generated positive affect in the participant, and since positive affect is a key component of happiness and wellbeing (Dolan, Peasgood, & White, 2007) this could have influenced participant responses.

The only measure on which there was a medium effect size for the type of message was in the measure of perceived success in forming relationships, which was higher for the positive messages than the messages about overcoming adversity. Perhaps participants felt that a person who was uniformly positive in outlook would succeed best in forming good relationships. It may be that talking about overcoming adversity made the target individual seem like less of a relationship prospect. This is a speculative explanation which cannot be verified without further research.

Regarding Research Question 3 there was no support for any difference according to the medium of the message, audio or video. This is interesting as it might tend to suggest that the content of the message was more important than the visual perception of the individual. One might have expected that the visual impact of a striking facial disfigurement would have had more effect on participant evaluations, but this did not appear to be the case. Perhaps participants in the audio condition were using their imagination and this was adequate to the task; even without personal acquaintance, we have all seen people with burn scars. Whatever the explanation, the content of the story seems to have been persuasive in itself. Again, it is possible that participants may have reacted differently to the competing influences of the two message types leaving no overall effect.

It is particularly important to note the large effect size for expectations of future interactions. The implication is that even a short episode of indirect contact with a person with facial disfigurement can achieve a substantial improvement in perceived ability to enjoy positive future interactions. This measure is conceptually related, inversely, to the construct intergroup anxiety, which had been found to be a strong predictor of social contact between members of different groups (e.g., Stephan, 2014; Shook & Fazio, 2008). Considering that a brief message in social media might offer a link to a website and invite audiences to look at a brief video, this could be a positive way of improving attitudes towards people with facial disfigurement and expectations regarding social contact.

Hypothesis 4, which predicted more positive responses across the range of dependent variables from participants who already had an acquaintance with a facial disfigurement compared to those who did not, received partial support. Participants' perceived ability to cope with a facial disfigurement in themselves or someone close to them was moderately stronger if they already knew someone with a facial disfigurement, and perceptions of leadership ability (moderate effect), emotional stability (weak effect) and ability to form relationships (weak effect) were more positive. The effect on participants' perceived ability to cope is only to be expected; a participant who already knows someone with a facial disfigurement has already had opportunity for vicarious exploration of coping mechanisms. It is possible that people who have no acquaintances with a facial disfigurement over-exaggerate the effect of acquiring a disfigurement and underestimate their own resilience (Bonanno 2004). There is evidence that those who experience a life-changing event return to a relatively stable previous level of happiness (Brickman, Coates, & Janoff-Bulman 1978) but this may not be widely appreciated. The other measures suggests that there may be a general impact of knowing someone with a facial disfigurement. Only 27% of participants (n=61) in combined experimental and control conditions knew someone with a facial disfigurement, so it is possible that a larger sample of participants might yield different results.

The different types of disfigurement, that is burn scars versus structural deviation from the standard template of a human face, did not lead to any substantial differences in any of the dependent measures. It may be that the type of disfigurement is less important than the severity of disfigurement, which would be a question for future research.

There were differences of moderate effect size in the perception of individuals with facial disfigurement based on the gender of the person portrayed. Women were evaluated more positively on sociability and resilience, success in forming relationships, and leadership ability, compared to men. So, on measures on which women are often stereotyped as more competent than men (e.g., Eagly, Mladinic, & Otto, 1991) this remained true for target individuals with facial disfigurement. The

salience of this observation lies in the implication that individuals with facial disfigurement were perceived as fully functioning adults in a social setting. This contrasts with the finding of Stone & Wright (2012) that women depicted in still photographs with facial disfigurement were not more highly rated than men on stereotypical female attributes, as if their disfigurement had in some sense cancelled out their female traits. The difference between the studies may lie in the use of personal narratives in the present study compared to still photographs in the earlier study. Alternatively, perhaps the women with facial disfigurement were regarded as stronger than the men because they had overcome more adversity: the expectation that physical appearance is more important for women than for men (Pliner, Chaiken & Flett 1990) and so a facial disfigurement on a woman would have a more negative impact than on a man (e.g., Gardiner, Topps, Richardson, Sacker, Clarke, & Butler, 2010) would have given more credit to the women. Combined with the personal narratives showing the individuals as ordinary people with successes and achievements, this could have led participants to attribute greater strengths to the females with facial disfigurement.

There were some weak effects of the gender of the participant, with females giving higher ratings than males on the emotional stability of the target individual and the efficacy of the campaign. On the other hand, female participants had a less positive experience in the experiment than males and reported a lower ability to cope if they or someone close to them acquired a facial disfigurement. This pattern may indicate that female participants were more emotionally engaged in the study and identified more with the target individual, resulting in more negative emotion during the study and a weaker estimate of their perceived ability to cope with a disfigurement, but higher opinion of the success of the target individual in achieving emotional stability.

It is important to consider how these findings might be translated into action at a societal level to improve perceptions of, and interactions with, people with facial disfigurement. Campaigning organisations, including Changing Faces, can present short narratives by people with facial disfigurement on their website and dissemination can be achieved via informational

campaigns in connection with major employers. The results of this study suggest these actions would be an effective means of normalising facial disfigurement and reducing intergroup anxiety as long as the message is kept broadly positive. However, this may reach a limited audience of people who already (presumably) have some interest. The popular media are likely to be a more effective way to reach large numbers of people so the focus will be on the popular media. The findings of the present study can be translated into suitable recommendations.

Garrisi, Janciute and Johanssen (2018) refer to the “general stereotypical and sensationalised manner” (p7) in which the British press portrays people with facial disfigurement. People with visible differences are usually presented in the newspapers in the context of either crime (e.g., the increase in recent years in the frequency of acid attacks) or entertainment, but not in ordinary everyday life. Garrisi et al (2018) offer several recommendations for improving this situation. People with non-conforming appearance could be employed as reporters and on magazine covers to improve visibility. They could be given more of a voice in how they are depicted and more control over their story. Media bodies could provide training for journalists and reporters on diversity and how to portray facial disfigurement in a respectful and dignified way, and regulatory bodies could provide guidance. Regulatory bodies could be asked to handle complaints promptly and effectively, noting that severe disfigurement is considered a disability under the Equality Act (2010). Media stories could focus on the everyday, lived experienced of people with facial disfigurement not only on their status as victim or sufferer.

Film and television fictional programming frequently portray visible differences as a plot device to explain why a character is bitter, reclusive, or criminal. This appeals to the traditional association of beauty with goodness and the archetype of a person with a disfigurement as a bitter and twisted recluse. Changing Faces, in their Face Equality on Television campaign, ask that film producers and programme makers should stop using facial disfigurement (typically common disfigurements such as burns and scars) as a shorthand to establish a deviant character, and a similar

point was made by Croley, Reese, and Wagner (2009). Garrisi et al (2018) recommend that people with facial disfigurement should be presented as ordinary characters in soap operas and dramas, not as victims but as normal people with everyday concerns. This would serve to normalise facial disfigurement and emphasise the person, their character and their concerns, rather than focusing mainly on their appearance. The disfigurement should be incidental to the story and not central – except where depicting realistically the discrimination faced by people with facial disfigurement.

Wardle and Boyce (2009), in their content analysis of television programming, observed that people with disfigurement are seldom given a voice; they are the object of view, not the subject. They are generally presented as someone with an individual problem rather than acknowledging that perceived disfigurement is the result of a mismatch between individual appearance and social expectation; the latter view situates the disability with the observer and not the individual. Garrisi et al (2018) recommend self-representation, in which people talk in their own words, to present a more positive and inclusive view. The names of TV programmes, e.g., Channel 4 “Undateables” or BBC 3 “Freak Show” are problematic in themselves and sensational; it is questionable whether these derogatory titles should be used.

In general, media coverage could present people with facial disfigurement as ordinary people with everyday concerns, thus helping to normalise disfigurement and avoid sensationalism. Media depiction discriminates against people with facial disfigurement by presenting them as different by virtue of their disfigurement, not as people first with careers, friends, family, and relationships. The more frequent and positive depiction of people with facial disfigurement in popular media would enhance visibility and reduce the sense of otherness. Making facial disfigurement seem more commonplace would be expected to reduce intergroup anxiety, thus promoting the prospect of social interactions, and entering a virtuous circle of greater contact and lowered anxiety. More positive public representations could also encourage people with facial

disfigurement to become more visible and thus promote increased levels of contact, further reducing intergroup anxiety.

Certain limitations were posed by the online nature of the study. The video and audio clips were limited in duration, to maximize similarity of experience and compliance from a large group of participants completing the study online. Different effects may have been noted from longer or repeated presentations. No differences were observed between the types of disfigurement, burn scars versus structural deviations of internal features from the norm, but this potential variable was not systematically varied so no firm conclusions can be drawn. Actual contact was not measured, only expectations regarding future interactions. Though expectations have been previously found to relate to actual contact (e.g., Christ, Hewstone, Tausch, Wagner, Voci, Hughes, & Cairns, 2010) it would be useful for future studies to look into measures of actual contact or intended contact. The present study recorded evaluations immediately after the personal narratives so there was no measure of longer term effect. However, even if the effect were to diminish over time (as might be predicted) small changes still matter as they can accumulate. If an intervention only slightly increases the chance of future contact, this contact can improve expectancies and so increase the chances of more contact, in a self-reinforcing positive feedback loop.

Evaluations, experiences, and expectations regarding future interactions may differ according to nationality. Number in the present study did not permit a rigorous analysis but it would be interesting to investigate this in future studies. Within the present study, the majority of participants were from either the UK or the USA, and each country approaches facial disfigurement differently. The language surrounding facial disfigurement differs between countries, as well as how disfigurement is framed. Changing Faces is the most prominent UK organization promoting equality and providing support for people with facial disfigurements. The US equivalent to this organization is called FACES: The National Craniofacial Association, and in the United States, 'facial disfigurement' is



not a term frequently used. 'Cranio-facial condition/anomaly' is the preferred terminology, which inherently focuses on the medical aspects rather than the social consequences.

In conclusion, the present study has demonstrated that the presentation of a brief personal narrative by an individual with a facial disfigurement can result in more positive evaluations of the individual, and more positive expectations for future contact with other individuals with facial disfigurement, compared to the presentation of a still photograph. This adds to previous research showing the importance of indirect contact in reducing prejudice towards members of a disadvantaged social group.

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