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Purpose of Study

- To analyze discourse around therapeutic enhancements of injured soldiers and veterans, highlighting:
 - a) historical and contemporary view of impaired veterans in the Americas.
 - b) science and technology enhancement landscape,
 - c) views of veterans on therapeutic enhancements.

Introduction

- Human enhancement is an area of increasing visibility, although different facets of human enhancement enjoy different levels of visibility (1).
- Many groups are missing in the human enhancement debate, such as rehabilitation professionals and the broad group of disabled people as well as the general public (2).
- A lot has also been written about the development and use of and push for human performance enhancement products for soldiers and its impact (3-13) and part of a recent human enhancement study for the European Commission (2) covers this topic.
- Many of the debates surrounding performance enhancement have centred on the able-bodied being perceived as healthy people, from athletes to soldiers (2).
- Therapeutic body devices developed to mimic species-typical body structures and expected body functioning, as a side effect, increasingly allow the wearer to outperform the species-typical body in various functions.
- This project covered therapeutic enhancements used for injured soldiers and veterans.

Table 1: Themes around public perception NYT 1851-2011

Themes	NYT 1851-1950 impaired veterans n=80		NYT 1950-2011 impaired veterans n=196		
	# of Hits	% of Hits	# of Hits	# of Doc. Marking Theme	% Doc. Marking Theme (Total: 196 Doc.)
Positive					
Independence/Help themes	18	22.5	8	4	2.04
Need to contribute to society	13	16.3	1	1	0.51
We owe them	15	18.8	15	12	6.12
Not their fault	1	1.3	1	1	0.51
Disability does not hinder ability	0	0.0	3	2	1.02
Should get special treatment	14	17.5	47	31	15.8
Positive impacts of disability	1	1.3	2	1	0.51
"Human Touch" is needed	4	5.0	2	2	1.02
"Reconstruction of disabled"	6	7.5	0	0	0
Heroics	3	3.8	15	10	5.1
Job Creation			30	21	10.7
Alternative Employment			13	10	5.1
Tribute			94	48	24.5
Gratitude			35	17	8.67
Reintegration			4	3	1.53

Compensation			213	91	464
Accessibility			41	14	7.14
Health Care Improvements			2	2	1.02
Psycho-Social Support			15	12	6.12
Negative					
Burden on society	1	1.3	8	6	3.06
Negative imaging	4	5.0	23	12	6.12
Job limited by disability	0	0.0	7	6	3.06
Helplessness	0	0.0	3	3	1.53
Need to prove themselves	0	0.0	0	0	0
Restrict Employment Opportunities			19	18	9.18
Lower standing of Veterans Needed			14	11	5.61
Poor Health Care Access			14	9	4.59

S&T Landscape

- Many rehabilitative interventions are being specifically designed for veterans (1) many of which could lead to therapeutic enhancement.
 - Performance enhancing 'medication' is on the radar screen of the military for a long time (14), although some feel that this is not done extensive enough (15).
- The Telemedicine and Advanced Technology Research Center (TATRC) U.S. Army Medical Research and Materiel Command has various programs that can lead to therapeutic enhancements http://www.tatrc.org/about_portStruc.html

Table 2: If you acquired an injury which led to the removal of your legs and you had the choice between ... what would you choose

a) artificial legs that behave like a 'normal' leg therefore do not outperform 'normal' legs;	28.1%	n=43
b) artificial legs that are better than the 'normal' legs	35.3%	n=54
and c) no artificial legs but something like a wheelchair.	1.3%	n=2
Don't Know	35.3%	n=54

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Methodology

- The NYT is by meaning of others(16) and its self perception(17;18) important in informing the 'average' person on important issues.
- Thematic analysis of NYT articles (Table 1) covering perception of injured veterans. using (a) the ProQuest search engine (provided by the University of Calgary) for articles from 1851 to 2006 and (b) the archive search engine on the New York Times website for articles from 2006 to 2011 (August 16, 2011).
- Online delivered exploratory, non-probability survey using the Survey Monkey platform;
- 46 simple yes or no questions, a likert scale, opinion self-rating scales, as well as open-ended questions was generated
- Results of question 46 is presented here (Table 2)
- Target group: Members of 'Veterans' Voice forum'
- As this is a non-probability sample, no tests of significance were performed (15).

Results

- There are positive and negative views of injured veterans (Table 1)
- Non injured veterans if asked to choose from different therapeutic options for a hypothetical loss of limbs preferred therapeutic enhancements (artificial legs) that enable beyond the normal abilities over artificial legs that lead to normative abilities over non leg related solutions such as wheelchairs (Table 3) .

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