Overlapping semantics of leadership and heroism: expectations of omnipotence, identification with ideal leaders and disappointment in real managers

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Building on the semantic theory of survey response, we show how leadership research is vulnerable to semantic overlaps in central concepts. Many people have unrealistic expectations of leaders, and confuse leadership with heroism, write Jan Ketil Arnulf and Kai Rune Larsen.

BY: Jan Ketil Arnulf and Kai Rune Larsen

Do people have unrealistically heroic expectations of leaders? During the recent two decades, leadership research has adopted the term «post-heroic» to describe a view of leaders that is more orientated towards leadership as a distributed phenomenon which emerges from social interaction than an individual, heroic phenomenon (e.g., Day, Gronn, & Salas, 2004; Day, Gronn, & Salas, 2006; Huey & Sookdeo, 1994). Post-heroic theories seem to be better approaches to examining the social complexity of leadership phenomena (Stacey, Griffin, & Shaw, 2000) and promise better explanatory value even for entrepreneurial success (Ensley, Hmieleski, & Pearce, 2006).

Heroic leaders in the form of celebrity CEOs are also of dubious value (Treadway, Adams, Ranft, & Ferris, 2009). Belief in such qualities has been shown to be dangerous to the leader in question (Hayward, Rindova, & Pollock, 2004), as well as to organizational performance and long-term returns on investment (Mintzberg, 2004; Wade, Porac, Pollock, & Graffin, 2006). Still, the heroic perspective keeps appearing with the advent of seemingly larger-than-life leaders such as Steve Jobs (Isaacson, 2011; Podolny, 2011).

So why do heroic perspectives on leadership keep re-emerging despite our knowledge of its illusory and potentially dangerous consequences? According to one tradition in leadership research, people hold «implicit leadership theories» or «ILTs». These are more or less pronounced ideas about how leaders should be and behave and there is a growing body of knowledge on such ILTs (Ehrhart, 2012; Lord, Foti, & De Vader, 1984). Our proposition in this study is that «leaders» and «heroes» are so tightly linked in our semantic construction of the world that speaking of one easily evokes associations with the other.

The purpose of this study is to explore how the semantic properties of the concepts «leader» and «hero» overlap and influence each other. Specifically, we study how

this overlap may be related to unrealistic assumptions about ideal leaders with possible consequences for how people perceive their closest superiors and themselves. By applying a newly proposed semantic theory of survey response (STSR) (Arnulf, Larsen, Martinsen, & Bong, 2014), we show how commonly used leadership surveys capture heroic leadership expectations in a self-fulfilling way, making leadership research just as prone to leadership illusions as lay people are.

The study makes two main contributions, one theoretical and one methodological. We first explore a possible explanation of why it is difficult to find distributed, non-heroic leadership in ILTs. This re-establishes a link to Weber's original charisma concept, self–other ratings and indirectly, to hubris and destructive leadership. Methodologically, our study also raises questions about the prevalent way of using survey data in leadership research as it opens up a perspective on the difference between empirical and pseudo-empirical research questions.

Theory

Transformational leadership.

Since 1945, the topic of leadership has slowly emerged as an important research arena on its own with foundations in organizational behaviour (OB) as well as general social psychology and sociology (Avolio, Walumbwa, & Weber, 2009; Bedeian & Hunt, 2006). A series of different theories have emerged over the years (Yukl, 2012b). One particular theory that stands out as the single most influential perspective is the theory of so-called «transformational leadership» (B.M. Bass, 1985). We have chosen to focus on this theory as it is the one that has attracted the most research publications, figuring almost as a validation standard for other theories (Piccolo et al., 2012). It also exists in versions claiming to span the «full range» of leadership behaviours measurable with a survey instrument called the «Multifactor Leadership Questionnaire», or MLQ (Avolio, Bass, & Jung, 1995). Moreover, the origins of this theory can be traced back to early work on charisma by Max Weber (1922) and James McGregor Burns (1978), which is why it has been called a «neo-charismatic» theory (House & Aditya, 1997). The theory of transformational leadership is therefore quite representative of leadership research in terms of theory development, scientific history and its empirical measurement practices.

Briefly explained, the theory of transformational leadership claims that leaders exercise three fundamentally different types of leadership behaviours. At the lowest level is non-leadership or a «laissez-faire» leadership style, which is ineffective and even detrimental to the organization. The first effective level is «transactional» leadership which, simply described, is about returns in the form of rewards and corrections for performance. The highest level is claimed to be «transformational» leadership. According to the version of this theory developed by Avolio and Bass (Avolio et al., 1995), transformational leadership can be operationalized as four types of leadership: individualized consideration, intellectual stimulation, inspiring

motivation and idealized influence. Leaders who perform well on such behaviours are likely to be perceived as charismatic by their followers. The MLQ contains measurement scales for all these leadership behaviours. It also contains a series of so-called «outcomes» or performance variables, purporting to measure the performance of the team or department of the leader in question.

Leadership as semantics.

A major part of leadership study has been based on survey research (Yukl, 2012a). Such survey research generally collects the viewpoints of employees on their managers through Likert-scale ratings. Different leadership theories present their ideas of leadership as «constructs», validated through extensive psychometric modelling using survey data as input (MacKenzie, Podsakoff, & Podsakoff, 2011; Yukl, 2012a). The different measures of leadership usually display high mutual correlations and are probably tightly related (Piccolo et al., 2012), possibly due to tautologies in the constructions (Van Knippenberg & Sitkin, 2013). Adding to this, the field usually displays high common method variance (Podsakoff, MacKenzie, & Podsakoff, 2012).

In a previous publication (Arnulf et al., 2014), we have shown how the semantic relationships among survey items may be an important reason for this situation. Using linguistic algorithms, we were able to predict most of the variation among survey items relating to all major leadership theories. The statistical foundations for leadership constructs reflect the way in which we speak about leadership issues. All correlations among leadership measures were accurately predictable through their semantic relationships. Leadership in surveys seems to be a matter of how we speak about it.

What we propose here is that concepts related to heroism pervade the language of leadership so that the two become virtually interchangeable. In what follows, we argue that heroic qualities were actually at the core of early leadership concepts and are still heavily evoked by modern leadership theories despite the effort to avoid heroism as a viable theoretical construct.

In his book «On heroes and hero-worshipping» from 1841, the Scottish scholar Thomas Carlyle spelt out the «great man theory» of history with almost feverish enthusiasm (Carlyle, 2008, orig. 1841). Carlyle claimed as early as the first page that heroes were «the leaders of men, these great ones; … all things that we see standing accomplished in the world are properly the outer material result, the practical realization and embodiment, of Thoughts that dwelt in the Great Men sent into the world». Carlyle was 80 years ahead of Weber's (1922) ideas about the role of special individuals who were the historical founders of religions and societies.

Anticipating the modern CEO's obligation to deliver returns on investments, Carlyle compared heroic leaders to «bank-notes», being personal guarantees of future success and results. Dismissing more reflective scholarly explanations of historical accomplishments as «dry-as-dust» (boring and uninformative because they feel unnatural to observers), Carlyle argued that heroic leaders are powerful as they are emotionally mobilizing. He also commented on destructive leadership, remarking

that some heroes «are forged bank-notes». Having little or no distance from his subject matter and literally believing in the specialness of his «heroes», Carlyle met with both enthusiasm and opposition in his own time.

Writing in the 1920s, Weber was more analytical and explained great leaders in terms of an *attribution* by followers who experienced what he called «charisma». Weber (1924/1947, p. 328) defined this as «a certain quality of an individual personality, by virtue of which he is set apart from ordinary men and treated as endowed with supernatural, superhuman, or at least specifically exceptional powers or qualities. These are such as are not accessible to the ordinary person, but are regarded as of divine origin or as exemplary, and on the basis of them the individual concerned is treated as a leader».

Re-interpreting Weber's works in the development of transformational leadership, Burns (1978) argued that «heroism» was actually a better concept than «charisma» in explaining spontaneous and affectionate support for leaders. Burns warned that the concept «charisma» had become too popular to convey the meaning originally proposed by Weber (1922) in that it had become a psychological acting quality, such as «stage presence», rather than a belief in the leader as a special kind of person. Still, neither of these authors managed to establish «heroism» as a workable concept in leadership theory, whereas «charisma» is still alive.

The concept «heroism» may be as scientifically awkward now as in Carlyle's day because it is too closely associated with romantic and unscholarly connotations of admiration and omnipotence. Paradoxically, this may be precisely the reason why heroism may be worth examining as a perceptual stereotype. If Carlyle and Burns were right, then «heroism» is a very powerful perceptual figure in the eyes of the beholder. Leader categorization research shows that cognitive prototypes of social actors may have a profound influence on their relationships to leaders (Lord et al., 1984; Shondrick, Dinh, & Lord, 2010).

The concept of a «hero» and associated concepts has been in the language at least since ancient Greek cosmogony (Burkert, 1987), but similar concepts are traceable as far back in time as the tale of the Sumerian king Gilgamesh (George, 1999) or the Chinese concept «英雄» meaning «strong and powerful male» which has mythological roots (Cui & Song, 2011; Pan, 2010). The prevalence of heroic figures has led to literary theories postulating its universality (Chadwick, 1912) as well as making it a central feature of all narrative structures (Boon, 2005; Bruner, 1991; Hillon, Smith, & Isaacs, 2005; Hyvärinen, 2012) and existential psychology (Becker, 1962).

Orrin Klapp made a rare attempt at the social scientific study of heroism in 1949, offering the following definition (Klapp, 1949, p. 57): «Heroes may be defined as personages, real or imaginary, who are admired because they stand out from others by supposed unusual merits or attainments… to which behavior such as homage, commemoration, celebration and veneration is appropriate. Because the hero exceeds in a striking way the standards required of ordinary group members… he is a supernormal deviant…». Klapp used the term «deviant» in a predominantly

positive sense, but ambiguity is intended. While a «hero» is usually to be admired, a hero to some could be a villain to others. Only monotheistic religions describe heroes as unequivocally good. In polytheistic cultures, such as the ancient Greeks or Chinese, heroes often pose a problem to ethics through their hubris, parallel to what is known as the «dark side» of leadership (Conger, 1992).

To sum up, historical and recent scholars depict a hero with certain common characteristics. Primarily, the hero shows agency in the face of risk, urgency or crisis. Second, the hero is cleverly able to understand and effectively counter the risk involved, sometimes even in a prescient way. Third, the hero will be attributed with acting qualities, such as decisiveness, speed or strength. Fourth, the hero is likely to be «special» in a way that elicits worship, veneration or similar, thereby being «great» in the sense of Carlyle, «apart» in the sense of Weber, or «deviant» in the sense of Klapp. The source of this «specialness» is often linked to a religious or a biological endowment, such as being born talented or blessed by God as a «chosen one» – essentially the meaning of «charisma» as «gifted» (Weber, 1922). Finally, the tale of a hero is often constructed in relation to a goal or mission with which the observer can identify – this is the «ethical» aspect of leadership.

Ethics is a tricky aspect of heroes as bending the rules may be condoned depending on whose side the hero is on and the qualities the audience will endorse. As Dumas observed in *The three musketeers* (chapter 47): «heroes or madmen [are] two classes of imbeciles greatly resembling each other» and similarly, Klapp grouped heroes with «villains and fools» as easily belonging to the same categories as agents of social control (Klapp, 1954). In a survey by Associated Press and AOL News in 2006, US president George W. Bush was rated both the villain of the year *and* the hero of the year (AOL, 2006).

To approach this empirically, prototypes of heroes and leaders may be investigated in the way people use language (Lakoff, 1987; Rosch, 1975). If people hold heroic beliefs, it should be possible to ask them about their own, chosen heroes and establish the degree to which heroes are assumed to surpass ordinary people in relation to the characteristics described above. These characteristics are semantically given through language. If people hold random opinions on the properties of heroes, the average score should approach 4 on a seven-point Likert scale. Mean scores significantly different from a score of 4 are taken as indications of systematic, or non-random distribution of heroic attributions. Therefore hypotheses 1a and 1b are framed as follows:

- **H1a:** *Respondents rating their own chosen heroes on the core characteristics of risk-related agency, wisdom, ethics, courage, leadership and power, will indicate significantly higher values than those of random distributions.*

- **H1b:** *The relationships among the heroic characteristics will be predicted significantly by semantic similarity indices.*

Whereas Carlyle, Weber and Burns saw the perception of heroism as an integral part of leadership, contemporary management research has treated heroism more as a peripheral characteristic or even a misunderstanding of leadership (Klapp,

1954; Meindl, 1990; Pfeffer, 1994). Our claim here is that language habits easily adopt a partial identity between leadership and heroism, frequently apparent in the media. The news magazine *Time* celebrated the 60th anniversary of its transatlantic issue with a feature article (13 November 2006) called «60 years of heroes», portraying a total of 60 historical persons or groups of persons declared to be heroes. Of these, 52% were professional leaders (heads of state, CEOs, etc.), 18% were political opinion leaders (e.g. explicitly engaged political writers) and 8% were individuals who used their fame for entrepreneurship. Only 22% were loners in an organizational sense, nevertheless notable by their influence in their professional field (e.g. artists, such as Picasso). In a similar vein, the January issue of the *Harvard Business Review* in 2013 printed an overview of the «World's 100 best CEOs». Apart from being CEOs, the only thing these people had in common were the high returns for their shareholders. As no other characteristics were described and the results were directly attributed to the CEOs, the defining characteristic of a «business leader» is to be heroic in the eyes of the shareholders.

If heroism and charismatic leadership are indeed overlapping perceptions as claimed by Weber and Burns, the language depicting one should automatically imply the other. In our previous study, we already found that semantics predicted the survey relationships between the leadership scales and the purported outcome measures in the MLQ. Perceptions of heroism should show similar statistical relationships to the outcomes as items measuring transformational leadership. Thus, we propose:

- **H2a:** *Perceived heroism is strongly correlated with charisma and leadership outcomes and weakly or negatively correlated with other measures of leadership, such as transactional or laissez-faire types.*

- **H2b:** *Linguistic algorithms will show the quantitative relationships between perceived heroism and transformational leadership to be linked a priori through semantic relationships.*

Attitudes of admiration and disappointment.
Traditional statistical modelling techniques in research on leadership focus on what is believed to be relationships among variables, such as different types of leadership and, for example, heroism. According to the STSR, these relationships are not found to vary in models such as structural equation modelling (SEM), but on the contrary are fixed through their a priori semantic relationships. What may instead vary are individuals' endorsements of various components of leadership and heroism – variance that would often disappear as noise in statistical modelling. We believe this information is interesting for the background of the fixed implication of heroism for leadership.

If people cannot describe leadership without activating heroic associations, then ratings of abstract, ideal leaders should be more similar in magnitude and qualities to heroes than to living people. Thus, hypothesis 3 is as follows:

- **H3:** *Ratings of ideal leaders on heroic characteristics will be more closely correlated to those of heroes than to the ratings of real persons, such as the raters themselves, or ratings of their immediate managers.*

Conversely, if the heroic expectation is that of a «supernormal deviant» (Klapp, 1954), then many people will be disappointed with their real leaders. The feeling of being dominated by others may elicit psychological defence mechanisms (McClelland, 1987), visible as the belittling of the subjects' managers, as already shown in research on more «prototypical» leaders (Foti, Bray, Thompson, & Allgood, 2012). Thus, hypothesis 4a is:

- **H4a:** *Disappointed expectations of heroism in managers will be indicated by a general tendency for subordinates to score their superiors significantly lower on heroism than the subjects themselves.*

The nature of the «supernormal deviant» may be associated with ideas of being blessed with special talents, described as a reality by Carlyle and as an attribution by Weber. These may stem from natural or supernatural sources, leading to hypothesis 4b:

- **H4b:** *Heroes, ideal leaders and self-ratings will score higher on innate qualities and/or relationships with supernatural forces than immediate managers.*

The fact that the perceptions of heroes differ between people implies that heroes may be invested with ideal properties related to the values of the subjects. This is in accordance with previous social psychological research on self/other evaluations (Dunning & Hayes, 1996) and on ILTs, where Keller found that ideal leaders are often analogous to the self (Keller, 1999). Thus, as hypothesis 5, we propose:

- **H5:** *Patterns of attributed heroic qualities differ such that subjects share more variance with their ideal heroes than their immediate managers do.*

Carlyle's point about the dryness of non-heroic explanations and the general prevalence of heroic idols among teenagers suggests that heroic ideas about leadership require less cognitive effort and hence that experience and expertise will modify and lessen people's heroic expectations (cfr. Kahneman, 2011). This is also in accordance with what is known about the etiology of ILTs (Shondrick et al., 2010) and about management evaluation practices in general (Scullen, Mount, & Judge, 2003) Thus hypothesis 6 is as follows:

- **H6:** *Heroic expectations of leaders decline with age and exposure to actual leadership experiences.*

Methods

Measures.

The characteristics of heroes listed above were based on a previous book by one of the authors reviewing heroism throughout history (Arnulf, 1996). Spanning history, culture, religion and technological development, a list of 25 commonly displayed heroic characteristics was compiled. This list comprised courage, decisiveness, earthly and religious powers, wisdom, ethical conduct, prophetic foresight and leadership capabilities. A questionnaire asked the respondents to think of any person, real or imaginary, who in their opinion deserved the label «hero» and to rate this person on these 25 items using a seven-point Likert scale. For this study, the scale of 25 items measuring heroic qualities was reformulated in three more versions, allowing also for ratings of the respondents themselves, their immediate superiors and an ideal «good leader» using the same qualities as the hero. The MLQ (Avolio et al., 1995) was used as a comparison measure for heroic perceptions.

Semantic similarity indices.

The 25 items measuring heroic properties were listed together with the 45 items from the MLQ, yielding a matrix of (70 * 69)/2) = 2415 unique pairs of items. This matrix was subjected to two different linguistic algorithms. One is a corpus-based algorithm termed MI (Mihalcea, Corley, & Strapparava, 2006). The other is a latent semantic analysis (LSA) which calculates the meaning of text by comparing it to huge matrices of existing text used as «semantic space» (Landauer, Foltz, & Laham, 1998). Both algorithms and the way we applied them are described in detail elsewhere (Arnulf et al., 2014), so we do not go into detail here. Suffice to say that both types of algorithms compare strings of text, in our case survey items, and produce a number between 0 and 1 indicating how similar these are in meaning. Very similar sentences approach 1, whereas very dissimilar sentences approach 0.

The MI algorithm uses a lexical database called WordNet, containing 147,278 unique words (Leacock, Miller, & Chodorow, 1998; Miller, 1995; Poli, Healy, & Kameas, 2010). Its output is a neutral expression of «everyday» language. LSA detects accumulated knowledge and semantic relationships within texts relevant to the respondents of surveys. To create these texts or semantic spaces, we used articles from three different media domains: business press texts (84,836 articles from *The Wall Street Journal*, *Business Week*, *Forbes* and *Fortune*), general newspaper texts (162,929 articles from *The New York Times*, *Los Angeles Times*, *Chicago Tribune*, *The Washington Post*, *The Boston Globe*, *USA Today*, *Houston Chronicle*, *San Francisco Chronicle* and *The Denver Post*), and PR-related texts (212,484 articles from *PR Newswire*).

These procedures gave us in total four sets of numbers (henceforth referred to as semantic similarity indices) indicating similarity which were later used in multiple regressions to assess the effect of semantics on the observed survey correlations. In terms of negative correlations, LSA does not discriminate well between negative and positive assertions and MI does not take negative values at all. A more detailed explanation of negative correlations in the MLQ is given elsewhere (Arnulf et al., 2014). In this research, we followed the procedure used in our previous study, allowing the signs of semantic identity scores to be negative for all pairs of items

from «laissez-faire» and «passive management by exception» (except among themselves), using available theoretical knowledge before even beginning the empirical survey (correctly identifying 255 of the 264 negative correlations, $p <$ .001). For the heroic items, we made a similar correction to the items «My manager could just as easily end up a crook» and «My manager's accomplishments are due to chance», which are the only two blatantly anti-heroic statements in the scale.

Sample.

The data were collected from several Norwegian convenience samples, comprising people of all ages and professions from a science fair, 13-year-old pupils from school classes, business and university students, employees and managers at various levels, as well as older people. The setting for administering the questionnaire was a mixture of educational and professional development settings and public arenas. In total, responses to the statements in the central scale measuring heroic qualities were collected from 797 respondents, 54% of whom were women. The mean age was 29 years, with a minimum of 12 years and a maximum of 82 years. Their occupational background spanned more than 200 different professions: 17% characterized themselves as managers and 57% were students. A second, independent sample (recruited from the same groups) of 608 persons responded to the survey asking about the heroic qualities of «a good leader». Of these, the mean age was 28.9 years (minimum 12 years, maximum 69 years) and 59.5% were women. Albeit being demographically dispersed, the sample was skewed towards younger respondents with limited work experience. A variable labelled «managerial experience» was coded based on the position reported to be held by the respondents, such that «students» were coded 0, all types of non-managerial employee labels were coded 1 and all sorts of manager/leadership positions were coded 2.

For the comparison between heroism and ratings of transformational leadership, 81 employees at a grocery chain and in municipal administration rated their 35 direct managers on a scale combining the MLQ and a shortened version of the heroism scale. Due to a technical error, responses from four MLQ items were missing in the sample from municipal administration.

Results

H1a proposed that «respondents rating their own chosen heroes on the core characteristics of risk-related agency, wisdom, ethics, courage, leadership and powers, will indicate significantly higher values than those of random distributions.» To test this, we asked the sample of 797 respondents to rate a hero of the respondents' own choosing for the 25 heroic items, using a seven-point Likert scale ranging from «strongly disagree» (1) to «strongly agree» (7).

Table 1 shows the mean scores for the ratings of the characteristics of a hero. The patterns of qualities attributed to heroes differed widely between subjects, but only two items did not score significantly differently from the mean value of 4 ($p <$ .01). As

expected, the most defining heroic quality is «The hero plays a decisive role in a difficult situation». H1a was supported in that a non-random picture of the hero emerges as a brave, action-orientated, persevering person who prevents a crisis of some kind, who is not in it for material benefits and is probably also not a crook (although the respondents are less unanimous on this point).

TABLE 1: Mean scores and factor scores after principal components analysis.

	Mean	Sage	Leader	Prophet	Buccaneer	Consultant	Monument
			Components				
Because of his/her accomplishments, the hero's views should be heard on important issues	4.16	.77					
It would be beneficial to ask the hero's advice	4.58	.73					
It is a good thing to have a close relationship with the hero	4.48	.64					
The hero is wiser than other people	4.32	.63					
The hero has a higher moral integrity than others	4.66	.62					
The hero is a remarkable person	5.12	.56					
The hero will play a decisive role in future crises	4.55	.43		.39			
The hero is a man/woman of action	5.80		.78				
The hero plays a decisive role in a difficult situation	6.03		.62				
The hero is persevering	5.49		.61				
The hero is braver than other people	5.49	.40	.51	.38			
The hero has leadership capabilities	4.63		.40				.36
The hero knows of dangers and challenges before they are perceived by others	3.56			.75			
The hero has a connection to higher powers	2.23			.66			
The hero's abilities are innate	4.21			.61			
The hero's high standing is due to chance	4.14				.73		
The hero's high standing is due to historians or the media	4.12*				.73		
There is little separating a hero and a crook	3.29				.61		
The hero is an entirely good person	3.75	.38			-.48		
The hero's abilities are due to education	3.31					.84	
The hero's abilities are due to vigorous training	3.97*					.78	
The hero is a necessary person in our culture	4.20						.69
The hero ought to be honoured and remembered through stories, films and monuments	4.23			.38			.54
The hero should enjoy more material privileges than others	2.60						.51
The hero is more psychologically stable than others	4.19						.36

Note: Extraction method: principal components analysis. Rotation method: varimax with Kaiser normalization.
Coefficients lower than .30 are suppressed and items sorted according to factors.
* Mean score not significantly different from 4.

H1b proposed that «the relationships among the heroic characteristics will be predicted significantly by semantic similarity indices». To explore how different heroic characteristics may relate to each other in the respondents' perceptions, a principal components analysis (PCA) was done with all 25 heroic items ($N = 797$, *KMO* = .88, Bartlett's test of sphericity $p < .001$). The mode of rotation (varimax or oblique) did not seem to make any major difference in the emerging pattern, but the promax rotation produced only two cross-loadings (rendering the factor scores for one item lower than .33). All types of rotations created similar structures with six components, explaining 55% of the variation.

The emerging six factors were labelled at the top of the columns as interpretations of the heroic qualities grouped by the PCA:

- **«Sage»:** Aspects of the hero as a wise person or guru, possessing insights from accomplishments that could be beneficial to others; a person with whom one should try to maintain a close relationship.

- **«Leader»:** This factor is composed of a series of items relating to decisiveness, bravery and perseverance, together with the attribute of leadership capabilities.

- **«Prophet»:** This type of hero has connections to higher powers, recognizes dangers before others and appears to be the result of innate talents. This factor also shows strong cross-loadings on items that suggest a strong role in future crises and seems to elicit some veneration from adherents.

- **«Buccaneer»:** This is a person who has become a hero by incidentally being in the right place at the right time, but who could just as easily have ended up as a crook. Such a person could be the antithesis to a hero, were it not for the fact that a large number of respondents seem to admire this type, as evident from a series of attitude items showing admiration. Resembling the child-like fascination for pirate stories, the label «buccaneer» is chosen to signify a degree of ambivalence, i.e. a not entirely good hero.

- **«Consultant»:** The items suggesting the impact of training and education do not relate systematically to the classic heroic items and are probably not a part of heroic qualities.

- **«Monument»:** Three items concerning how to honour the hero in a cultural context do not seem to mix with the others and possibly only reflect admiration.

Judging from the contents of the factorized items, only the first four factors seem to be «true» aspects of the hero as a prototype, clustering most of the classic heroic qualities. Of the three items concerning the origins of the hero's capabilities, only innate capabilities link to «prophetic» items.

A semantic exploration of the relationships between these heroic qualities shows that if treated as subscales, the semantic similarity indices can significantly predict same-scale «belongingness» (relatedness) in binary logistic regression (Nagelkerke's R^2 = .16, p < .01). The complete pattern of inter-item correlations among the 25 heroism items was predicted significantly through the semantic similarity indices in multiple regression (adj. R^2 = .63, p < .01). We also ran a generalized linear model (GLM) with empirical inter-item correlations as the dependent variables and with scale belongingness (heroic facets) as fixed factors. Table 2 shows the correlations between the heroic facets and how well they were predicted in either linear prediction or in GLM.

TABLE 2: Correlations between heroic factors and their prediction through regression models.

WITHIN SCALES	Relationship	Empirical survey correlations	Pred. in linear regression	GLM predicted correlations
	Buccaneer–Buccaneer	.22	.34	.22
	Consultant–Consultant	.36	.38	.36
	Guru–Guru	.50	.36	.50
	Leader–Hero	.47	.41	.47
	Monument–Monument	.41	.28	.41
	Prophet–Prophet	.24	.36	.24

BETWEEN SCALES	Relationship	Empirical survey correlations	Pred. in linear regression	GLM predicted correlations
	Buccaneer–Consultant	.02	.05	.02
	Buccaneer–Guru	.06	.10	.06
	Buccaneer–Leader–Hero	.03	.08	.03
	Buccaneer–Monument	.07	.11	.07
	Buccaneer–Prophet	.07	.09	.07
	Consultant–Guru	.36	.29	.36
	Consultant–Leader–Hero	.33	.31	.33
	Consultant–Monument	.25	.26	.25
	Consultant–Prophet	.19	.30	.19
	Guru–Leader–Hero	.45	.39	.45
	Guru–Monument	.38	.32	.38
	Guru–Prophet	.29	.36	.29
	Leader–Hero–Monument	.33	.34	.33
	Leader–Hero–Prophet	.25	.39	.25
	Monument–Prophet	.27	.32	.27

As can be seen in Table 2, even a plain linear regression predicts the correlations well and with GLM the predicted correlations are identical to those observed. As semantics predict the relationships among all variables in this way, we can assume that these descriptors of heroic attributes are semantically given. They reflect descriptors of heroes that are entrenched in people's understanding of language, supporting H1b.

We now turn to the second hypothesis. H2a stated that «perceived heroism is strongly correlated with charisma and leadership outcomes and weakly or negatively correlated with other measures of leadership, such as transactional or laissez-faire types» and H2b that the «linguistic algorithms will show the quantitative relationships between perceived heroism and transformational leadership to be linked a priori through semantic relationships».

To test this, as a first step we again regressed the semantic similarity indices on the complete correlational matrix of MLQ items and heroic items. In ordinary linear regression, semantics explained 49% of the variance in correlations. A GLM model explained 63% of the variance. The semantic indices again explained same-scale belongingness (Nagelkerke's R^2 = .16, $p < .01$).

TABLE 3: Relationships between the scales of transformational leadership in the MLQ and heroic perceptions – empirical correlations and predicted correlations from linear regression and GLM.

	Empirical survey correlations	Correlations predicted in linear regression	GLM-predicted correlations
Transform. lead. → Transform. lead.	.58	.45	.55
Transaction. lead. → Transaction. lead.	.14	.24	.05
Laissez-faire → Laissez-faire	.52	.52	.24
Heroism → Heroism	.36	.33	.36
Outcome values → Outcome values	.62	.50	.61
Transaction. lead. → Laissez-faire	.08	.18	-.02
Transform. lead. → Laissez-faire	-.03	.00	.05
Transaction. lead. → Transform. lead.	.25	.30	.26
Transform. lead. → Outcome values	.58	.47	.55
Transaction. lead. → Outcome values	.23	.30	.23
Laissez-faire → Outcome values	-.01	-.02	.07
Heroism → Transform. lead.	.39	.39	.40
Heroism → Transaction. lead.	.17	.28	.13
Heroism → Laissez-faire	.06	.07	.06
Heroism → Outcome values	.44	.40	.45

Table 3 shows the correlations between average perceived heroism in the respondents' immediate managers and the MLQ subscales. It can be seen that the average heroism scores correlate most strongly with transformational leadership in the leadership behaviours. As hypothesized, the relationships between heroism and the less valuable types of leadership – transactional and laissez-faire – were negligible. Heroism was even more strongly related to the leadership outcomes than transformational leadership. Moreover, all correlations among the scales were reasonably well predicted in linear regression (adj. R^2 = .49, p < .01) and almost perfectly replicated in the GLM model with scale belongingness as fixed factors (adj. R^2 = .49, p < .01). Hypotheses 2a and 2b were thereby supported. Because all of these relationships (including scale relationships) are determined semantically, most humans will evoke heroic associations when speaking about charismatic leadership and its outcomes.

According to H3, «ratings of ideal leaders on heroic characteristics will be more closely correlated to those of heroes than to ratings of real persons, such as the raters themselves, or ratings of their immediate managers». To test this hypothesis, we asked respondents to rate ideal leaders, heroes, actual managers and themselves and then calculated sum scores for each of these types of rated persons. When the scores on the heroism scales are summed and the buccaneer scores are subtracted (because only some people see the hero as a potential crook), the result is a sort of «core hero sum score». The results are plotted in Figure 1, which shows that the hero and the «good leader» were rated as about equally high on heroic characteristics (the difference is not statistically significant). More than 15 points further down the scale are people's self-ratings as heroes, lower than a good leader or a hero, but significantly higher than the average score of their own immediate managers. This supports hypothesis 3.

FIGURE 1: Average sum scores on the heroism scale, by rated object.
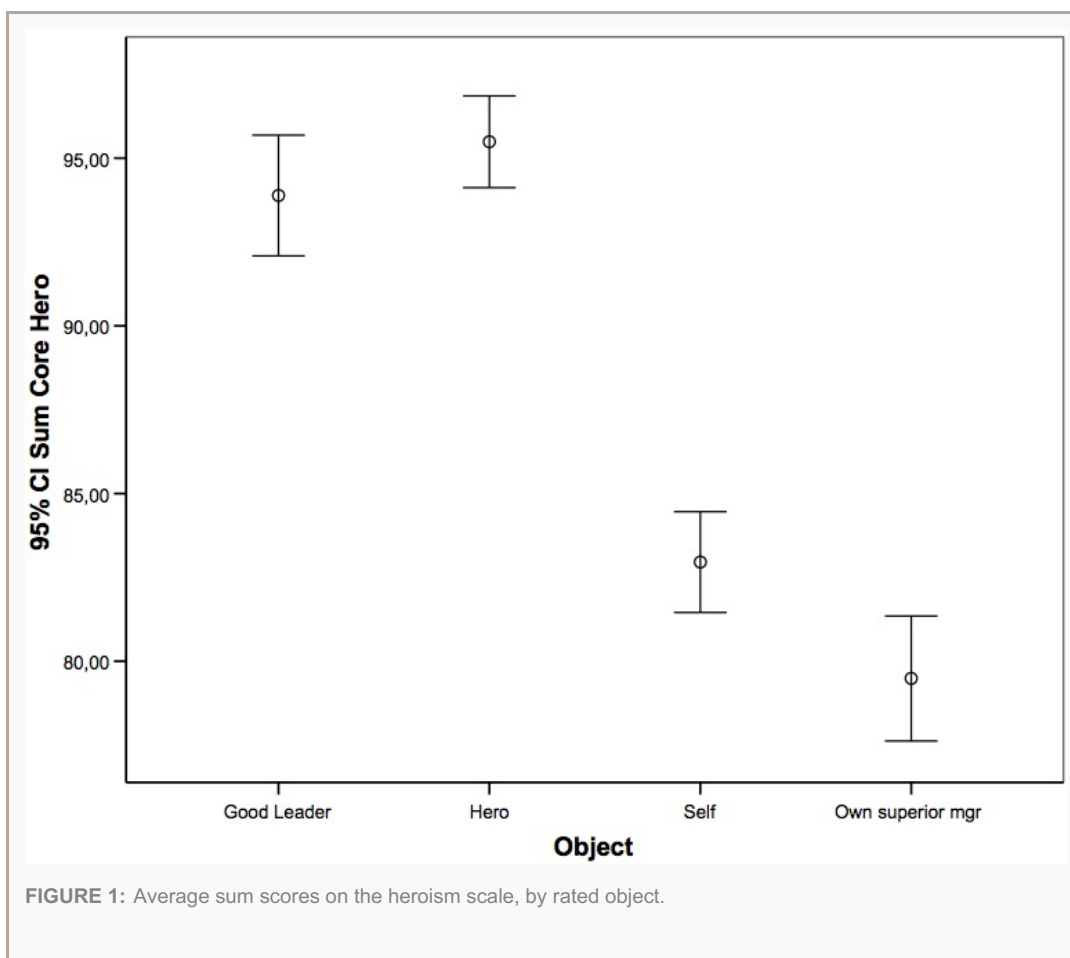
H4a stated that «disappointed expectations of heroism in managers will be indicated by a general tendency for subordinates to score their superiors significantly lower on heroism than the subjects themselves». This was tested by comparing the mean scores for heroes, good leaders, selves, and immediate managers. The statistics indicate support for the hypothesized tendency to belittle real leadership figures. The respondents considered themselves on average 11% less heroic than their own heroes, but 12% more heroic than their immediate managers. In terms of frequencies, 58% rated themselves as more heroic than their superiors, while only 20% rated themselves higher than their own hero and 15% out-heroed both hero and manager. The differences between the «good leader» and the «hero» on other dimensions barely reached statistical significance, whereas t-tests of the differences in ratings of selves and immediate managers were significant ($p < .01$ in all cases, controlling for multiple tests). This supports hypothesis 4a.

H4b predicted that «heroes, ideal leaders and self-ratings will score higher on innate qualities and/or relationships with supernatural forces than immediate managers». To test this, we made a plot of how the respondents rated the impact of innate dispositions compared to education on the achievements of the hero, a good leader, themselves and their immediate managers. For the hero, there was a widespread tendency to rate belief in innate capacities rather than education. There was the opposite tendency for the other three rated objects. Still, the tendency to slight one's superior manager was maintained, so that the raters scored both a good leader and themselves higher on innate capacities and education than their immediate ($p < .01$). This tendency was observable for the item «relationship with higher powers», but this did not reach statistical significance. Hypothesis 4b was thereby
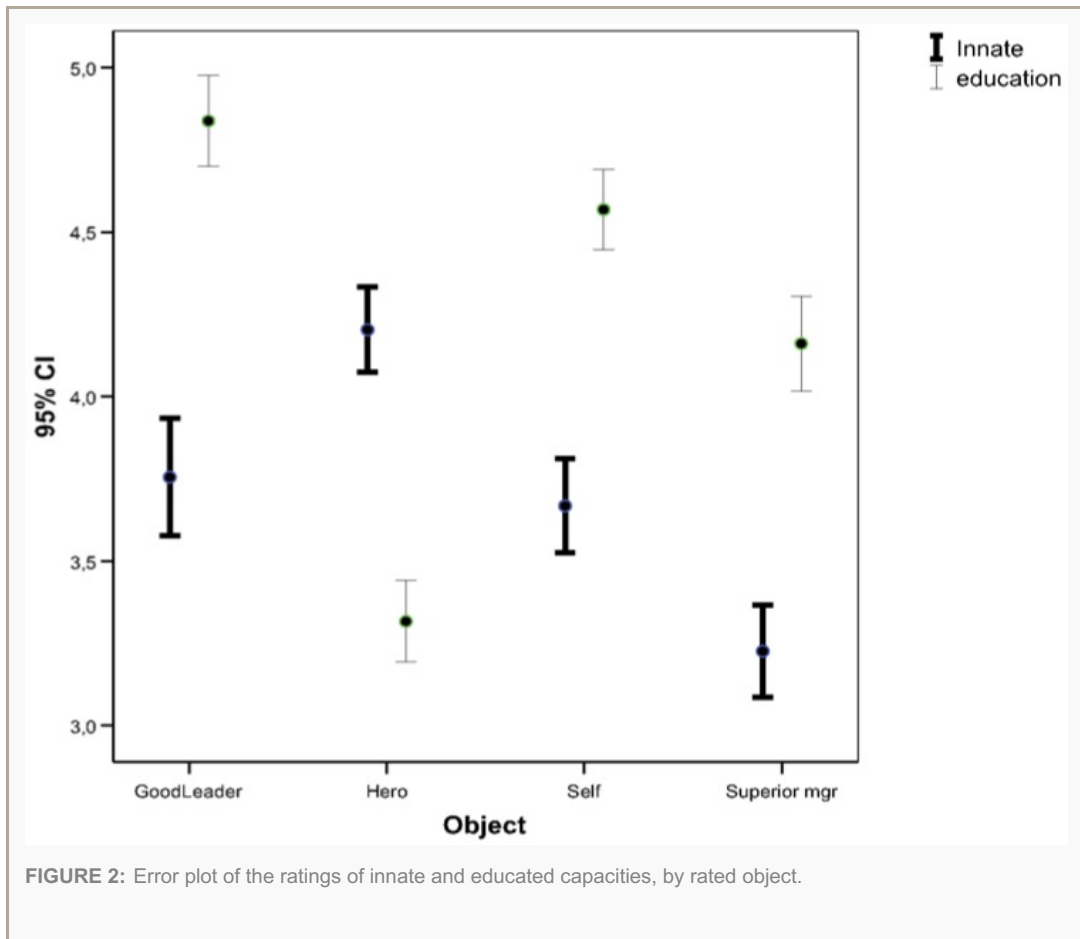
only partially supported.

FIGURE 2: Error plot of the ratings of innate and educated capacities, by rated object.

According to H5, «patterns of attributed heroic qualities differ, such that subjects share more variance with their ideal heroes than their immediate managers do». We tested this by correlating the average heroism scores for the hero, the immediate manager and the raters themselves, respectively. The correlation between self and hero scores ($r = .32$, $p < .01$) was stronger than the correlation between the immediate manager and the hero ($r = .24$, $p < .01$), but the strongest correlation was in fact that between the immediate manager and self ($r = .56$, $p < .01$). Controlling for the scores of the respondents themselves, the correlation between manager and hero disappeared (.08, n.s.), but even when controlling for the managers' scores, the correlation between self and hero remained significant ($r = .23$, $p < .01$). The correlation between self and manager was unchanged when controlling for the hero. This implies that the subjects share unique variance with their idealized heroes, but their superior managers are only seen as heroic to the extent that they share part of this variance, supporting hypothesis 5.

Finally, H6 stated that «heroic expectations of leaders decline with age and exposure to actual leadership experiences». To test this, we explored how the age of the respondents related to all aspects of heroism when rating good leaders, heroes, the respondents' selves and their immediate managers. The results are displayed in Table 4. For the hero, expectations of heroic qualities seemed to diminish with both age and the raters' managerial experience. Also, there was an increased expectation of buccaneer qualities in the hero with age. Actual immediate managers were rated somewhat higher (i.e. more generously) with age and experience,

whereas the ratings of self seemed unchanged. Contrary to our hypothesis, however, neither age nor actual managerial experience seemed to have a relationship with heroic perceptions in the raters themselves or expectations for good leaders.

TABLE 4: Rank-order correlations between hero components, age and managerial experiences, by rated objects.

Hero components	Hero		Good leader		Myself		My real boss	
	Age	Mgr experience	Age	Mgr experience	Age	Mgr experience	Age	Mgr experience
Core hero	-.16**	-.08*	-.08	.00	-.02	.03	.09*	.05
Sage	-.13**	-.07	-.08	.01	.07	.03	.09*	.01
Leader	-.08*	-.05	-.00	-.02	-.00	.05	.20**	.12**
Consultant	-.11**	-.03	-.07	-.13*	.02	.02	.05	.04
Buccaneer	.29**	.17**	.04	-.01	-.01	-.05	-.16**	-.11**
Prophet	-.15**	-.09*	-.03	.06	.02	.04	.07	.02

* p < .05

** p < .01

Age and managerial experience are mutually correlated (r = .52). Which of these factors could have the primary impact on the change that takes place? We entered age and managerial experience as predictors into a multiple regression with «core hero» scores as the dependent variable. In the case of the hero, there was no doubt that age was a more important predictor (standardized β = -.17, t = -3.68, $p <$ .01) for reduced heroic expectations than managerial experience (standardized β = -.27, $n.s.$). For the raters' own immediate managers, there were significant correlations with age and managerial experience, but none of these reached significance in linear regression and of the two, aged seemed to be the more important. Hypothesis 6 was thereby only partially supported. Age seemed to reduce expectations for heroes and decrease expectations for one's own manager, but we did not find any specific effects of managerial experience and no effects at all on the ratings of a «good leader».

Discussion

The aim of this study was to explore the semantic overlap between the concepts «leader» and «hero» and to identify how this may influence stereotypes of leaders in people's perceptions of their closest superiors and themselves. A secondary aim was to explore the mutual role of attitude strength and semantic scale properties in the semantic theory of survey response (STSR).

The list of heroic properties derived from the historical review of heroic concepts captured some central features of how the respondents thought about their heroes. Properties such as being brave, wise, action-orientated, or persevering in the face of a crisis turned out to be more highly rated for heroes than for ordinary people, including the respondents themselves.

Until recently, the most prevalent methodological way to establish these qualities as

scientifically founded in leadership research was to subject these measures to a series of exploratory and confirmatory factor analyses with additional modelling techniques (MacKenzie et al., 2011; Nunnally & Bernstein, 2010). As we have previously shown in a wider study on leadership inventories, these techniques do not detect semantics as the most important source of inter-item variance in leadership surveys (Arnulf et al., 2014). The stable relationships between survey items, beginning with the intra-scale Cronbach alphas and ending with complex variable relationships, such as the mediation of effects, only reflect how people usually speak about leadership and related topics.

The scale measuring perception of heroic properties fitted seamlessly into this pattern in all our analyses. Our semantic algorithms were able significantly to identify scale belongingness, showing that the various items belong semantically together. They also enabled precise predictions, not only among the heroic items themselves, but also of the relationships between heroism and the various types of leadership in the MLQ supposed to measure «full-range leadership» (Avolio et al., 1995). Almost as predicted by Carlyle, Weber and Burns, heroic properties were strongly correlated with charisma and transformational leadership. They were less strongly correlated with transactional leadership and not at all with laissez-faire leadership, but interestingly even more strongly correlated with the outcomes of leadership than transformational leadership at the top of the scale.

One may wonder why this has not been discussed earlier, given the status of Weber and Burns in modern leadership research (Carlyle may have been forgotten by most). The reason is possibly a firm belief in leadership research that «heroism» is only a vague and popular word, but «leadership» is a discernible reality confirmed through statistical construct validation techniques. We can now show how such relationships are not due to discrete «constructs», but merely to the different overlaps in meaning between the survey items. These items all belong to the same semantic network. To the common human speaker, the understanding of one set of items cannot be activated without also evoking the others, the likelihood of which is indicated by the semantic similarity indices. Media practices may exacerbate this (Chen & Meindl, 1991). It is interesting that among our semantic similarity indices, those derived from latent semantic analysis of business press had by far the most explanatory power for the surveyed correlations. Conversely, our data show that practical experience may render people less susceptible to mere semantic relationships.

The tautological nature of concepts related to leadership have already been pointed out by other writers, for theoretical (Van Knippenberg & Sitkin, 2013) as well as for empirical reasons (Alvesson & Sveningsson, 2003). The semantic relationships show how the way we speak about leaders, their behaviours and their accomplishments is linked through the meaning of language itself. It is impossible to learn how to speak without having these stereotypes and associations activated.

We believe this may be a very likely explanation for the repeated appearance of heroic leadership ideas in popular and professional publications (Arnulf & Gottschalk, 2012; Bligh, Kohles, & Meindl, 2004; Chen & Meindl, 1991; Day et al.,

2006; Gronn, 2005; Shamir, 2005). Heroic accounts of leadership will simply appear natural, appealing and convincing to many people due to their embeddedness in semantic networks. Heroism is thereby a more fundamental source of attribution bias for implicit leadership theories than more mature views, especially distributed forms of leadership (Shondrick et al., 2010).

This point is of crucial theoretical relevance to survey research in general and the STSR in particular. Knowledge that we have from semantic networks is not empirical, but logical. As we showed by testing H1b, the factor structure of the heroism scale was reasonably satisfactory from a psychometric point of view. This did not prevent all item relationships from being semantically related to each other and to the MLQ items. The relationships between such scales are thereby computable a priori and hence what Smedslund (1978, 1987, 1988) has called «pseudo-empirical».

Because the relationships are predetermined by semantics, they do not tell us anything that we did not already know. To contrast this, we now turn to a part of the study that actually is empirical, i.e. the differences in score levels between the raters and their immediate managers. Note that the semantic relationships pertain to the overall data structure of the scales composed from survey items. When these scales are used to measure specific but different objects, such as the rater or the rater's immediate manager, there is no a priori semantic knowledge about their mutual score levels. We believe that this possibility to distinguish between pseudo-empirical and truly empirical questions is one of the more interesting features of the STSR.

It is therefore interesting how our data suggest that age and possibly leadership experience may reduce heroic expectations of leaders. More mature people seem to hold less omnipotent and more reflective opinions about ideal leaders. They also seem more generous towards real leaders, accepting them more as they are. We did not find the expected relationship between personal leadership experience and heroic expectations, but this may be due to our methods. Our measure of «managerial experience» was very crude and did not specify differences in years and level of management. If perception of heroism and actual leaders do change with age, it is more likely due to experiences than to the aging process itself and it remains a question what sort of experiences that would influence expectations of heroism in leaders.

We hypothesized that less reflective ideas about leadership may give rise to emotional reactions of defensiveness and devaluation. Such effects were clearly discernible in the scores of people rating themselves, ideal heroes and managers and their own managers. On average, heroic qualities were rated higher in people's prototypes of their heroes than in themselves or another real person, their immediate manager.

People harbouring such hopes, consciously or unconsciously, will meet with disappointment. The figures of this study showed that almost 6 out of 10 respondents have a tendency to rate their immediate managers lower on any heroic trait than themselves. This is hardly any more realistic than a belief in heroes and

the explanation is probably a self-serving, defensive reaction to disappointment of omnipotent hopes, where «real» leaders are being devalued and belittled (Foti et al., 2012; Kernberg, 1998; Kohut, 1966; Smothers, Absher, & White, 2012).

The data also seemed to indicate that people share variance in ratings with both their heroes and their managers, but there is little or no shared variance between the ratings of a hero and those of a real manager. A possible interpretation of this is that the subjects see their immediate managers as «lesser» versions of their own worldly selves, whereas heroes embody more idealistic qualities that are attributed to others in a restricted way, also in line with previous findings (Keller, 1999).

The tendency to slight one's own manager is in accordance with a well-known dissatisfaction with managers that has shown itself repeatedly in organizational research (Hogan, Curphy, & Hogan, 1994). This tendency is exacerbated by the markedly derogatory rating of some managers. Such extreme devaluation of some individuals makes average differences even greater than the number of malcontents should indicate. These rating patterns are in stark contrast to the spontaneous expectations people seem to hold of a «good leader». (The tendency even holds for connections to «higher powers», where respondents, albeit uncertain of this connection, rate their superiors as significantly less influential with divine powers than themselves.)

While having a religious mission has historically been a frequent attribute of heroes, the respondents in this study seem to have replaced God with genetics. Destiny still seems to play a role though, as a belief in the «born» hero loads on the same factor as connection to higher powers and foresight. This connection with other realities or being made from a «different material» than others was an important component in charismatic attributes as described by both Weber (1922) and Carlyle (2008, orig. 1841). The possible role of genetics in the «born leader» remains a popular topic today among lay people and scholars alike (Arvey, Rotundo, Johnson, Zhang, & McGue, 2006; Arvey, Zhang, Avolio, & Krueger, 2007; Chaturvedi, Zyphur, Arvey, Avolio, & Larsson, 2012). One of the notable differences between a «hero» and a «good leader» is the expectation that a «hero» is created predominantly by innate factors, whereas education seems more important for the good leader. In this sense, the «good leader» has a profile more akin to the two kinds of real people assessed: the respondents themselves and their immediate superiors. Still, the «good leader» is rated as having the better genetic makeup and the question is if the «good leader» actually unites a mythological belief in the «born leader» and the expectation of educational achievements.

Our study also seems to shed some light on the «dark side» of leadership (Conger, 1992). While it is easy to think of heroes as «good» in a vague sense, most respondents in this study did not think of heroes as entirely good. A sizeable minority actually seemed to endorse a «buccaneer» type of hero. The core features of a hero are more strongly linked to decisive actions, foresight and omnipotence than ethics, as if heroes are more likely to create rules than follow them. Declaring managers heroes while still in office may stimulate hubris in a dangerous way, as those who receive awards and public acclamation while in office have an increased

likelihood of subsequently engaging in white-collar crime (Arnulf & Gottschalk, 2012) and those who are law abiding seem to profit from the heroic status themselves, but their companies do not (Wade et al., 2006).

As evidence accumulates about the nature of human perception and judgement (Kahneman, 2011; Todd & Gigerenzer, 2003), there is every reason to look for predetermined biases in the way we perceive phenomena as central to human nature and as crucial to survival as leadership. Heroism in some form has continued to cross the path of leadership research since mythological times and it would be strange if there were no biological underpinnings of this. This would also help explain Jerry Hunt's comment that «If leadership is bright orange, then leadership research is slate grey» (Hansen, Ropo, & Sauer, 2007), as empirical research is engaged in a continuing fight against a biological propensity to construct leadership phenomena as inherently heroic (Stanley, 2005), risking continued disbelief from the wider audience and ourselves.

Limitations and implications for further research

The study of heroes and heroism is a complex and wide field, spanning multiple layers of social and cultural science. Using a survey method in a cross-sectional sample from one nation obviously limits the generalizability of the results, as well as the validity of causal inferences. The data were collected from a convenience sample, possibly influencing statistics concerning age and work experience. Collecting data with more specific regard to demographics could shed more light on the research questions.

More research on the link between neurobiology and perceptions of leadership could possibly offer a better understanding of the origins of leader prototypes. Organizations and authority differ widely across cultures, economies and institutions and so does leadership. If leadership has any biological basis at all, it would seem reasonable to look for perceptually salient pre-concepts or conceptual «primitives» (Lakoff, 1987) which could serve as templates for more reflective leadership prototypes shaped by experience and competence. Modern social neurobiology has already discovered biological foundations for mapping intentions and agency in others (Puce & Perrett, 2007) and heroic figures are among the conceivable pre-concepts that could be used to map social interaction.

Conclusion

The empirical findings in this study support the conclusion that descriptions of leadership seem strongly determined by semantics in a way that makes charisma, transformational leadership and heroism inextricably related. This seems reasonable against the conceptual background of leadership research as it developed from the works of Carlyle via Weber and Burns to 21st century empirical

research (Bass, 1990; Burns, 1978; Carlyle, 2008, orig. 1841; Weber, 1922; Yukl, 2012a). The study thus makes two main scientific contributions: the first is a substantive contribution to leadership theory, supporting the interpretations of the previous STSR findings. This study shows that leadership research using Likert-scale surveys addresses a matter that informs implicit leadership theories (Ehrhart, 2012) much more strongly through language than previous research has assumed (Arnulf et al., 2014). Our previous study showed that the different prevailing leadership theories may be understood as different ways of talking about the same phenomenon. Our current study shows that these concepts are also deeply embedded in other concepts, such as heroism, which must be expected to shape how leadership phenomena are constructed in the public sphere.

The next two contributions are methodological. First, the prevalent practice of undertaking factor analysis to secure the independence of measures does not seem sufficient. Obtaining satisfactory fit statistics can clearly be done through grouping sets of items with high intra-scale semantic commonality (Arnulf et al., 2014). The ensuing fit statistics will make scales seem independent, but the semantic relationships actually still hold and may remain the main reason for the model relationships observed. Finally, our use of the STSR and semantic data made it possible for us to differentiate between a pseudo-empirical and empirical set of questions. The tight links between heroic characteristics and transformational leadership were semantic and hence pseudo-empirical in the sense of Smedslund (1994). However, the comparisons of scores between respondents and their managers were not, as the patterns we found were not deducible from the semantic properties of the scales. One practical implication from this study is for leadership development: knowledge of leadership expectations and how expectations may change through exposure to practice may be useful to facilitators and participants in leadership development programmes.

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Citation

Abstract

People may confuse leadership with heroism due to the semantic overlap between their descriptions. This may explain some facets of fascination with leadership and obstructions to differentiated viewpoints of leadership as a group phenomenon. Building on the semantic theory of survey response (STSR), we are able to show how prevalent measures of charisma and transformational leadership are semantically tied to concepts of heroic behaviours and qualities. Due to the semantic overlap between heroism and leadership (outlined in the classic works of Carlyle, Weber and Burns), we hypothesized, and found, that many people have unrealistic expectations of leaders. Heroic expectations seem to be linked to representations and ideals of the self, which may create notable derogatory attitudes towards actual managers. Correlations with age suggest that experience will reduce this tendency. An STSR analysis shows how leadership research is vulnerable to semantic overlaps in central concepts. Possible explanations and consequences are discussed.

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