



Short Communication

Are defeat and entrapment best defined as a single construct?

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ABSTRACT

The concepts of defeat and entrapment have been employed in evolutionary accounts of clinical phenomena such as depression and suicide. Recently theorists have argued that both concepts may be best conceptualised as a single distinct factor. The current study is the first to empirically test this assertion. A sample of 305 students completed measures of defeat and entrapment. Their responses were then analysed via exploratory factor analysis. The results strongly suggest that a single factor underlies both defeat and entrapment. These findings have considerable implications for past studies and theoretical accounts that rely on the distinction between defeat and entrapment.

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1. Introduction

The concept of defeat has been developed from social rank accounts of depression in humans (e.g., Price, Sloman, Gardner, Gilbert, & Rhode, 1994), whilst entrapment has been developed from animal-based arrested flight models of defensive behaviour (e.g., Dixon, Fisch, Huber, & Walsler, 1989). Both concepts have since been brought together to form the basis of evolutionary approaches to human depression (Gilbert & Allan, 1998; Gilbert, Allan, Brough, Melley, & Miles, 2002) and suicide (Williams, 1997; Williams, Crane, Barnhofer, & Duggan, 2005). Defeat has been defined as a sense of failed social struggle, loss and reduced social rank (Gilbert & Allan, 1998). This may be directly related to interpersonal conflict, but may also relate to perceptions of failure to attain social resources, including material resources (Gilbert, 2006). Entrapment, alternatively, has been defined as a desire to escape from the current situation, tied with the perception that all escape routes are blocked (Gilbert & Allan, 1998).

These two concepts have been operationalised in terms of the defeat and entrapment scales developed and validated by Gilbert and Allan (1998). Empirical research using these scales has supported the purported links these two concepts have with anhedonia (Gilbert et al., 2002), depression (Gilbert & Allan, 1998; Willner & Goldstein, 2001) and suicidality (Rasmussen et al., in press). A strength of the concepts of defeat and entrapment in accounts of depression and suicide is their basis in basic evolutionary processes. However, in applying these concepts to human behaviour,

it becomes necessary that they can be accurately defined and measured in a way that is appropriate for humans.

Recently, theorists have suggested that defeat and entrapment are conceptually equivalent and may be better conceptualised as a single factor (Johnson, Gooding, & Tarrier, 2008). For example, definitions of defeat suggest it encompasses a lack of possible solutions or ways forward, elements also strongly associated with the idea of entrapment (Rooke & Birchwood, 1998). Similarly, these concepts share an association with low social rank and loss of aspirations (Gilbert et al., 2002; Rooke & Birchwood, 1998). Qualitative investigations into entrapment have shown that depressed individuals may perceive themselves as trapped in a subordinate role (Gilbert & Gilbert, 2003). This sense of subordination is also seen as an aspect of defeat (Gilbert & Allan, 1998). Subsequently, it can be argued that a single factor, the perception of failure without a way forward or likelihood of improvement, underlies both defeat and entrapment.

This single factor argument challenges theoretical accounts that view defeat and entrapment as two separate but interacting constructs. The Cry of Pain model of suicide, for example, asserts that perceiving life events as defeating can trigger feelings of entrapment which motivate suicidality (Williams, 1997). The single factor account also brings into question cross-sectional research which has studied the relationship between defeat and entrapment (e.g. O'Connor, 2003; Rasmussen et al., in press) as such studies may simply be measuring different aspects of the same construct. High inter-correlations between the defeat and entrapment scales, ranging from $r = .72$ to $r = .81$, in the latter of these studies supports this view (Rasmussen et al., in press).

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The question of whether defeat and entrapment represent two distinct constructs has never been empirically tested (Gilbert & Allan, 1998). During the initial development of these scales, the authors report that each scale was factor analysed separately. Considering the conceptual ambiguity surrounding the concepts of defeat and entrapment, their combined roles in previous theoretical frameworks and the lack of any existing empirical investigation concerning the distinctiveness of these two constructs, it is pertinent to investigate their factor structure. It is possible to theorise that there are multiple different solutions regarding the factor structure of the defeat and entrapment scales in addition to those suggested above. As no existing data could be found which supports one particular solution over another, an exploratory factor analysis (EFA) was considered most appropriate at this stage.

2. Method

2.1. Participants

The sample consisted of 305 students (238 female; $M_{\text{age}} = 21.4$ years, $SD = 5.9$) from the University of Manchester who took part in the study in exchange for course-related credits. Participants completed the defeat and entrapment scales in a single session. Ethical approval for this research was obtained from a University ethics committee prior to the start of this research.

2.2. Defeat and entrapment scales

The entrapment scale includes 16-items referring to the perception of being trapped and the desire to escape (e.g. "I am in a situation I feel trapped in"), and is rated on a five-point scale ranging from 'Not at all like me' to 'Extremely like me'. Higher scores indicate greater feelings of entrapment. The alpha coefficient for this scale ranges from .86 to .93 (Gilbert & Allan, 1998), and was .95 in the present sample. All items on this scale demonstrated a full range of scores in the current sample.

The defeat scale includes 16-items referring to perceptions of failed struggle and low social rank (e.g., "I feel that I am one of life's losers"). These are rated for their prevalence in the past week, on a five-point scale ranging from 'Never to 'Always/all the time'. Higher scores indicate greater feelings of defeat. The alpha coefficient for this scale ranges from .93 to .94 (Gilbert & Allan, 1998), and was .85 in the present sample. All items on this scale demonstrated a full range of scores in the current sample.

3. Results

A principal-axis EFA was conducted using the covariance matrix. The data demonstrated positive skew ($M = 1.66$) and kurtosis ($M = 3.18$), as would be expected in a non-clinical population where the majority of individuals are not feeling particularly trapped or defeated. As the extraction method used does not make assumptions about the distribution of the data there was no need to correct this. Bartlett's test suggested the data were suitable for an EFA, $\chi^2(496) = 7383.96$, $p < .001$. The sample size met *a priori* recommendations for EFA ($n > 300$; Tinsley & Tinsley, 1987), with a participant to variable ratio of 9.5–1. The Kaiser–Meyer–Olkin (KMO) measure also indicated that the sample size was adequate, $KMO = .96$. Initial standardised communalities ranged from .30 to .88 with an average of .54 ($SD = .15$). The first ten eigenvalues were: 13.62, 1.47, 1.22, 1.04, 0.84, 0.69, 0.64, 0.62, 0.58 and 0.51, respectively accounting for 50.68%, 5.47%, 4.52%, 3.88%, 3.11%, 2.55%, 2.39%, 2.32%, 2.15% and 1.90% of the variance in items. These eigenvalues are presented visually in Fig. 1.

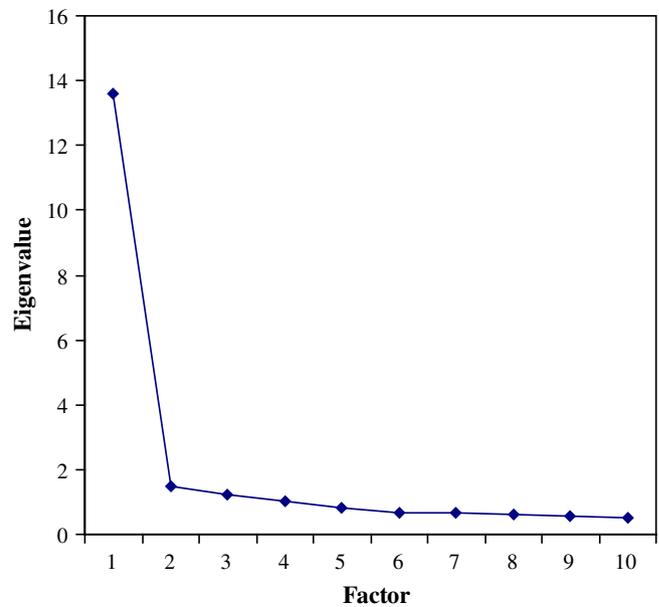


Fig. 1. Scree plot.

The decision about the number of factors to extract was based upon parallel analysis (Preacher & MacCallum, 2003; Zwick & Velicer, 1986). Parallel analysis identifies the number of factors to extract based on the number of factors which have eigenvalues exceeding those expected by chance. These chance values are derived from a large number of randomly generated datasets. Monte Carlo simulations have found this technique to be more accurate in identifying the correct number of factors to extract than a range of other commonly used techniques, including the Kaiser criterion (extract eigenvalues > 1) and scree plots (Zwick & Velicer, 1986). The parallel analysis was conducted using SPSS syntax provided by O'Conner (2000). The first five eigenvalues for 95% of the ten thousand randomly generated datasets were equal or less than 1.75, 1.64, 1.56, 1.50 and 1.44. As only the first eigenvalue of the real dataset exceeded those derived by chance, a single factor solution was supported.

The scree plot displayed in Fig. 1 lends further support to this one factor solution, showing an unequivocal distinction between the eigenvalue of the first factor and the remaining values. These findings indicate that a single latent variable underlies items pertaining to defeat and entrapment. Once extracted, this factor had an eigenvalue of 15.72 and explained 49.11% of the variance in items. Standardized factor loadings for all items are displayed in Table 1, with the scale they originally came from reported.

4. Discussion

This study represents the first formal test of the factor structure underlying the defeat and entrapment scales. The results of the EFA strongly support the conclusion that a single factor underlies items on both scales. Across both scales, the items loading highest onto the factor describe perceptions of failure or loss without any viable solutions allowing for possible improvement (e.g. 'I feel I'm in a deep hole I can't get out of'; 'I feel that I am one of life's losers'; 'I can see no way out of my current situation'; 'I feel powerless'). This supports the contention that the single factor underlying both defeat and entrapment is the perception of failure without a way forward (Rooke & Birchwood, 1998). The item content suggests this psychological construct is not always explicitly tied to an individual's interpersonal context, but may relate to a number of life circumstances.

Table 1
Standardized factor loadings for items onto the single factor solution.

Item	Loading	Scale
I feel I'm in a deep hole I can't get out of	0.83	E
I can see no way out of my current situation	0.82	E
I have a strong desire to escape from things in my life	0.81	E
I feel trapped inside myself	0.78	E
I would like to escape from my thoughts and feelings	0.77	E
I feel powerless to change things	0.77	E
I feel that I am one of life's losers	0.77	D
I feel powerless	0.76	D
I feel completely knocked out of action	0.75	D
I often have the feeling that I would just like to run away	0.75	E
I would like to get away from who I am and start again	0.74	E
I feel I have lost important battles in life	0.74	D
I feel down and out	0.73	D
I feel that there is no fight left in me	0.73	D
I feel trapped by other people	0.73	E
I feel that I have sunk to the bottom of the ladder	0.72	D
I am in a situation I feel trapped in	0.72	E
I feel that I have lost my standing in the world	0.72	D
I feel defeated by life	0.71	D
I want to get away from myself	0.71	E
I feel powerless to change myself	0.69	E
I feel that I have given up	0.69	D
I feel that my confidence has been knocked out of me	0.68	D
I have a strong desire to get away and stay away from where I am now	0.68	E
I feel trapped by my obligations	0.66	E
I am in a relationship I can't get out of	0.61	E
I would like to get away from other more powerful people in my life	0.61	E
I feel that life has treated me like a punchbag	0.63	D
I feel that I have not made it in life	0.61	D
I feel that I am a successful person (reverse)	0.46	D
I feel able to deal with whatever life throws at me (reverse)	0.43	D
I feel that I am basically a winner (reverse)	0.40	D

E, Entrapment scale; D, Defeat scale.

These findings conflict with accounts which view defeat and entrapment as two separate but interacting constructs (e.g. Gilbert & Allan, 1998; O'Connor, 2003; Rasmussen et al., in press; Williams, 1997). Instead, the results lend empirical support to the view that such theories require modification to account for the singular nature of defeat and entrapment. The Schematic Appraisal Model of Suicide (SAMS; Johnson et al., 2008) has already begun this process by providing a modification of the Cry of Pain model of suicide (Williams, 1997) whereby defeat and entrapment are synonymous constructs. The current results consequently have clinical implications in as much as they support clinically-oriented models such as the SAMS, which has recently formed the basis of a therapeutic programme aimed at reducing suicidality (Johnson et al., 2008; Tarrier & Gooding, 2007).

Findings demonstrating relationships between defeat or entrapment and other clinical phenomena should not be discounted (e.g. Gilbert & Allan, 1998; O'Connor, 2003; Rasmussen et al., in press; Willner & Goldstein, 2001), as each scale still captures a substantial portion of the underlying factor. However, future research could focus more on the single underlying factor. This could be achieved either by using both scales as indicators of a latent variable, or by running an EFA as in this study and taking the highest loading items as a single scale.

It should of course be noted that the results of this study alone are not conclusive and defeat and entrapment may be separable in other ways. They may for example have different patterns of correlates. Further investigation is required to investigate this possibility. A number of specific limitations of this study should also be

recognised. In the current study a student sample was used. Defeat and entrapment have been studied largely in the context of clinical phenomena such as depression (Gilbert & Allan, 1998; Willner & Goldstein, 2001) and suicide (Rasmussen et al., in press). Consequently it will be necessary to replicate these findings in clinical samples with a wider range of such experiences. In addition, it could be the case that the failure to identify two distinct defeat and entrapment factors relates to problems in the scales themselves, rather than the concepts they purportedly measure. These are, however, currently the only psychometrically robust scales available which measure these constructs. Future work developing more sensitive measures will be necessary to establish whether the single factor solution identified in this study represents such an artefact.

In conclusion the current study supports the view that defeat and entrapment are better conceptualised as a single factor, capturing a perception of failure without a solution or way forward.

Ethical statement

Ethical approval was obtained from a University ethics committee prior to conducting this research

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