CORE VALUES THAT SUPPORT CONSTRUCTION HEALTH, SAFETY, AND WELL-BEING (HSW)

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Values are an integral part of interventions relating to health, safety, and well-being (HSW). Values are important as they provide the foundation for the development of culture, which reflects the way in which contractors undertake the business of construction and projects. Literature indicates that seven core values and 22 value factors have been identified as supportive of HSW, the core values being: interconnectedness; participation; trust; justice; responsibility; development, and growth. A self-administered questionnaire survey was conducted among registered construction health and safety (H&S) practitioners in South Africa to determine the importance of, and perceived experience from, seven core values and 22 value factors in supporting HSW in construction. The findings include that 11 out of the 22 identified value factors are of near major to major, or major importance in terms of supporting HSW in construction. However, experience expressed as a percentage of importance ranges between 48.6% and 66.7%. Therefore, it can be concluded that the nature of the construction industry in the form of the manifestation of core values and value factors is not conducive to HSW.

Keywords: construction, core values, health and safety, value factors, well-being.

INTRODUCTION

The report, 'Construction Health & Safety Status & Recommendations' highlighted the considerable number of accidents, fatalities, and other injuries that occur in the South African construction industry (Construction Industry Development Board (cidb), 2009). The report cited the high-level of non-compliance with health and safety (H&S) legislative requirements, which is indicative of a deficiency of effective management and supervision of H&S on construction sites as well as planning from the inception or conception of projects within the context of project management. The cidb's report indicates the disabling injury incidence rate (DIIR) to be 0.98 i.e. 0.98 disabling injuries per 100 workers, the all industry average being 0.78, and a fatality rate of 25.5 per 100,000 workers, which does not compare favourably with international rates (cidb, 2009).

Zwetsloot, van Scheppingen, Bos, Dijkman, & Starren (2013) argued that individual values are recognised as health, safety and welfare (HSW) influencing factors. However, a good overview of HSW-related values is missing. Their study aimed to fill this gap by identifying relevant values and clustering them into a limited set of core values supportive of HSW, the central research question being: What organisational values are supportive of HSW at work? The central research question was operationalised into the following sub-research questions:

- What organisational values or value-laden concepts are mentioned in the literature as relevant for HSW?

- Can these values and value-laden concepts be logically clustered around a limited set of core values relevant for HSW?

The study resulted in the development of a framework, which includes seven core values, 22 value factors, and three value clusters, that are supportive of HSW.

Given the abovementioned, an exploratory study was conducted in South Africa to determine the perceived importance of the seven core values, and 22 value factors in terms of supporting HSW, and the perceived experience of the seven core values, and 22 value factors by workers.

REVIEW OF THE LITERATURE

Values

Values are defined as: a code of behaviour, ethics, standards (moral) and principles (Allen, 1990). The European Foundation for Quality Management (EFQM) (2013) defines values as "operating philosophies or principles that guide an organization's internal conduct as well as its relationship with the external world. Values provide guidance for people on what is good or desirable and what is not. They exert major influence on the behavior of individuals and teams and serve as broad guidelines in all situations".

The identification of core values and value factors

In terms of the process followed by Zwetsloot, van Scheppingen, Bos, Dijkman, & Starren (2013), 29 values or value-laden concepts were identified through a review of the literature. This resulted in the need to evolve clusters of closely related value factors. Content analysis was then conducted, which entailed the following:

- A value factor was only attributed to the cluster it was judged most relevant for;
- What values were more central than other values or value-laden factors?
- Some value factors are 'essential values' – potentially relevant for the identity of organisations, and selected as core values, and
- Other factors appeared to be 'expressions of' such deeper values. An example is the relationship between interconnectedness (core value), and 'social support' (an expression thereof).

The first workshop included 14 stakeholders, who:

- Were required to clarify the meaning of core values;
- Provide feedback and associations with respect to the cultural factors identified;
- Cluster the cultural factors and select a 'core value' for each cluster. The stakeholders evolved seven clusters versus the researchers' six clusters.

The second workshop included eight stakeholders, who:

- Were required to clarify the meaning of core values;
- Provided feedback and associations with respect to the cultural factors identified;
- Clustered the cultural factors and select a 'core value' for each cluster. The stakeholders evolved seven clusters versus the researchers' six clusters, and
- Finally, categorised the seven core values identified, which resulted in three main categories of core values that are supportive of HSW.

The process resulted in the development of a framework, which includes seven core values, 22 value factors, and three value clusters, that are supportive of HSW, as presented in Figure 1. The three value clusters are:

- Ethical values: valuing people (being)';

- Ethical values: valuing desired individual and collective behavior (doing), and
- Aspirational values: Valuing (alignment of) personal and organisational development (becoming).

Figure 1: A framework of core values, value factors, and value clusters that support HSW (Zwetsloot, van Scheppingen, Bos, Dijkman, & Starren, 2013)
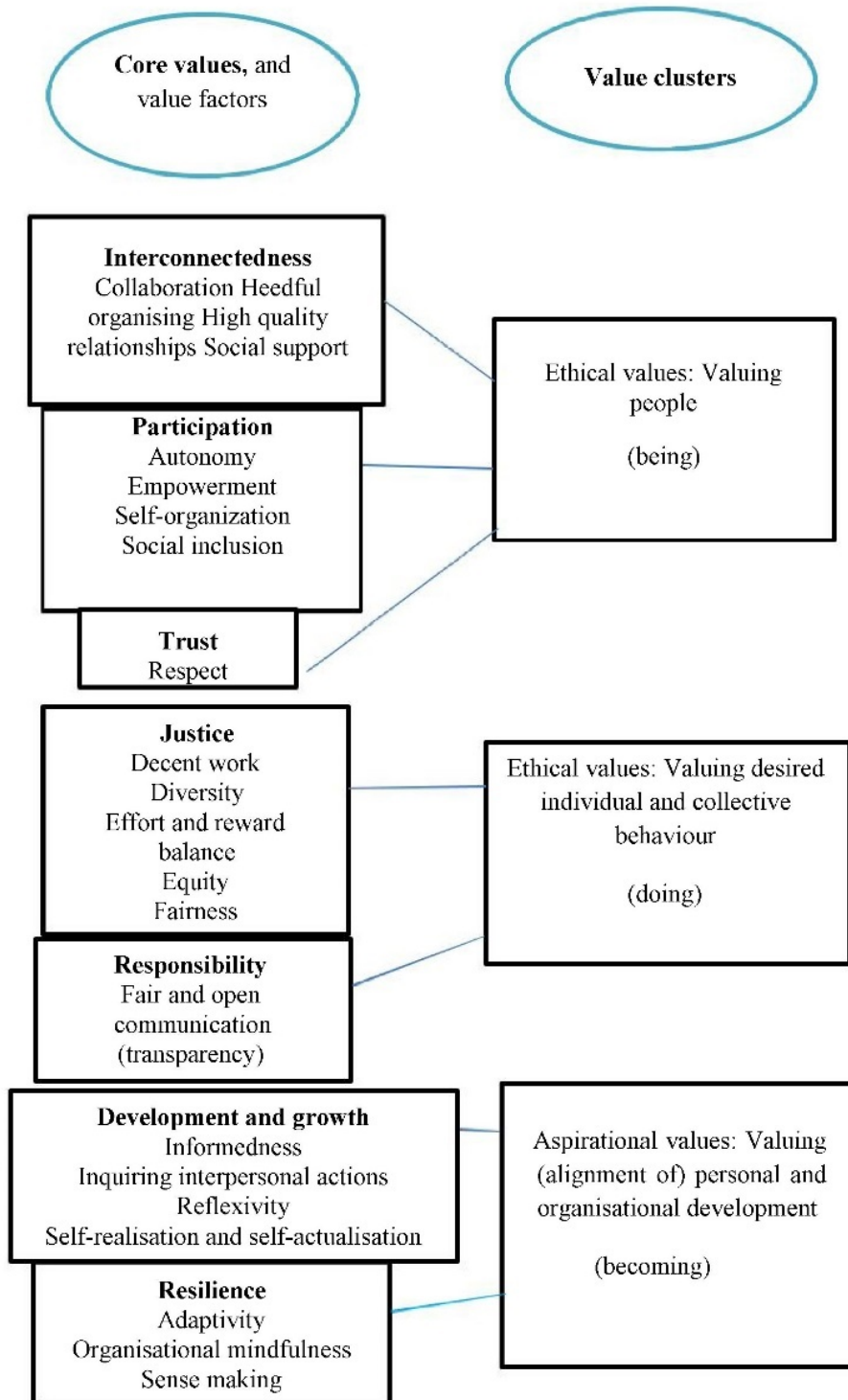
RESEARCH

Research method and sample stratum

The research method adopted the framework of core values, value factors, and value clusters that support HSW as evolved by Zwetsloot, van Scheppingen, Bos, Dijkman, & Starren (2013). The core values and value factors constituted the basis of the questionnaire in the form of two five-point Likert-scale type questions, followed by a qualitative question, and six close ended demographic questions.

The questionnaire was sent per e-mail to all members of the South African Council for the Project and Construction Management Professions (SACPCMP), registered Professional Construction Health and Safety Agents (CHSAs), Candidate Construction H&S Agents (Can CHSAs), and Construction H&S Managers (CHSMs) throughout South Africa. Table 1 presents the sample strata details and response rates.

Table 1: Sample strata details and response rates

Sample stratum	Size (No.)	Response (No.)	Response rate (%)
CHSAs	78	14	18.0
Can CHSAs	124	14	11.3
CHSMs	562	26	4.6
Mean	764	54	7.1

The survey commenced on 18 July 2018, and closed out on 25 July 2018, which means the duration was limited to one week. Owing to the low response rate, the findings can be deemed to be indicative, but likely to be from the more committed practitioners, and practitioners who are familiar with, and / or interested in, the subject area, which reinforces the validity of the findings.

Research findings

Table 2 indicates the importance of seven core values and 22 value factors with respect to supporting HSW in construction in terms of percentage responses to a scale of 1 ("not supportive") to 5 ("very supportive"), and mean scores (MSs) between 1.00 and 5.00. It is notable that all the MSs are above the midpoint value of 3.00, which indicates that the respondents perceive the value factors to be more than important as opposed to less than important in terms of supporting HSW in construction.

Considering the collective importance of core values, responsibility (4.76) is ranked first followed by respect (4.70), resilience (4.30), justice (4.27), interconnectedness (4.08), participation (3.96), and development and growth (3.92).

A review of the MS ranges provides further insight into the results, with respect to the importance of the value factors. It is notable that 11 out of 22 (50.0%) of the factors have figures of MSs > 4.20 ≤ 5.00, which indicates that the value factors are between more than important and very important. The top ten value factors are 'fair and open communication (transparency)' (core value: responsibility), followed by eight 'respect' value factors, namely 'respect', 'fairness', 'decent work', effort and reward balance', 'organisational mindfulness', 'collaboration', 'informedness', 'quality relationships', and 'justice', and then 'adaptivity' (core value = resilience).

The remaining 11 out of 22 (50.0%) have figures of MSs > 3.40 ≤ 4.20, which indicates that the value factors are between important to more than important and more than important.

Table 2: The importance of core values / value factors

| Core value / Value factor | U | Not .... Very | | | | | MS | R |
		1	2	3	4	5		
Interconnectedness:							**4.08**	**5**
• Collaboration	0.0	0.0	5.6	7.4	33.3	53.7	4.35	8
• Heedful organising	0.0	0.0	5.6	14.8	42.6	37.0	4.11	14
• Quality relationships	0.0	1.9	1.9	9.3	38.9	48.1	4.30	9
• Social support	1.9	3.7	7.4	22.2	27.8	37.0	3.81	18
Participation:							**3.96**	**6**
• Autonomy	0.0	5.6	5.6	27.8	37.0	24.1	3.69	21
• Empowerment	0.0	1.9	1.9	22.2	24.1	50.0	4.19	13
• Self-organisation	0.0	1.9	1.9	18.5	31.5	46.3	4.19	12
• Social inclusion	0.0	3.7	7.4	31.5	22.2	35.2	3.78	19
Respect:							**4.70**	**2**
• Respect	0.0	0.0	3.7	1.9	14.8	79.6	4.70	2
Justice:							**4.27**	**4**
• Decent work	1.9	0.0	3.7	3.7	29.6	61.1	4.43	4
• Diversity	0.0	1.9	5.6	11.1	44.4	37.0	4.09	15
• Effort and reward balance	0.0	1.9	3.7	1.9	35.2	57.4	4.43	5
• Equity	0.0	3.7	7.4	24.1	20.4	44.4	3.94	16
• Fairness	0.0	0.0	0.0	13.0	25.9	61.1	4.48	3
Responsibility:							**4.76**	**1**
• Fair and open communication (transparency)	0.0	0.0	1.9	3.7	11.1	83.3	4.76	1
Development and growth:							**3.92**	**7**
• Informedness	1.9	0.0	1.9	7.4	35.2	53.7	4.35	7
• Inquiring interpersonal actions	5.7	1.9	3.8	17.0	45.3	26.4	3.74	20
• Reflexivity	5.6	1.9	5.6	24.1	31.5	31.5	3.69	22
• Self-realisation and self-actualisation	1.9	0.0	7.5	24.5	30.2	35.8	3.89	17
Resilience:							**4.30**	**3**
• Adaptivity	0.0	0.0	1.9	17.0	34.0	47.2	4.26	10
• Organisational mindfulness	0.0	0.0	0.0	11.3	39.6	49.1	4.38	6
• Sense making	0.0	0.0	3.8	17.0	28.3	50.9	4.26	11

Table 3 indicates the experience of seven core values and 22 value factors in terms of supporting HSW in construction by workers with respect to percentage responses to a scale of 1 (minor) to 5 (major), and MSs between 1.00 and 5.00. It is notable that no MSs are above the midpoint value of 3.00, which indicates that the respondents perceive the value factors to be experienced by workers infrequently as opposed to infrequently by workers.

In terms of the collective experience of core values, justice (2.97) is ranked first, followed by justice (2.97), respect (2.96), responsibility (2.87), interconnectedness (2.83), resilience (2.81), development and growth (2.72), and participation (2.56). The collective rankings have been emboldened in the rank (R) column.

A review of the MS ranges provides further insight with respect to the experience of the value factors. It is notable that no MSs > 4.20 ≤ 5.00 – between a near major to major / major extent. Similarly, in the case of > 3.40 ≤ 4.20 – between some extent to a near major / near major extent. Then, 19 / 23 (82.6%) MSs > 2.60 < 3.40 – between a near minor extent and some extent / some extent. The top ten value factors are: three 'justice' value factors, namely 'decent work', 'diversity', and 'effort and reward

balance', followed by an 'interconnectedness' value factor 'collaboration', then 'respect' (core and value factor), then two 'justice' core values 'equity', and 'fairness', then two 'interconnectedness' value factors 'quality relationships', and 'heedful organising', and ' resilience' value factor' organisational mindfulness'.

Table 3: The experience of core values / value factors by workers

| Core value / Value factor | U | Minor ……………………. Major | | | | | MS | R |
		1	2	3	4	5		
Interconnectedness:							**2.83**	**4**
• Collaboration	0.0	5.8	30.8	36.5	13.5	13.5	2.98	3
• Heedful organising	1.9	5.8	34.6	34.6	11.5	11.5	2.88	10
• Quality relationships	1.9	1.9	36.5	38.5	11.5	9.6	2.90	7
• Social support	0.0	13.7	33.3	33.3	11.8	7.8	2.67	17
Participation:							**2.56**	**7**
• Autonomy	3.9	17.6	39.2	21.6	9.8	7.8	2.49	22
• Empowerment	1.9	9.6	42.3	30.8	3.8	11.5	2.65	18
• Self-organisation	0.0	11.8	49.0	17.6	15.7	5.9	2.55	20
• Social inclusion	0.0	21.6	33.3	23.5	11.8	9.8	2.55	21
Respect:							**2.96**	**2**
• Respect	1.9	13.5	25.0	25.0	21.2	13.5	2.96	6
Justice:							**2.97**	**1**
• Decent work	0.0	9.6	19.2	40.4	19.2	11.5	3.04	1
• Diversity	0.0	11.5	25.0	28.8	21.2	13.5	3.00	2
• Effort and reward balance	0.0	15.4	23.1	28.8	23.1	9.6	2.88	9
• Equity	0.0	11.5	25.0	30.8	21.2	11.5	2.96	4
• Fairness	0.0	13.5	25.0	30.8	13.5	17.3	2.96	5
Responsibility:							**2.87**	**3**
• Fair and open communication (transparency)	0.0	17.3	28.8	21.2	15.4	17.3	2.87	11
Development and growth:							**2.72**	**6**
• Informedness	3.8	9.6	32.7	26.9	15.4	11.5	2.86	12
• Inquiring interpersonal actions	5.8	9.6	36.5	26.9	13.5	7.7	2.71	15
• Reflexivity	9.6	7.7	44.2	19.2	11.5	7.7	2.64	19
• Self-realisation and self-actualisation	5.8	13.5	36.5	21.2	13.5	9.6	2.67	16
Resilience:							**2.81**	**5**
• Adaptivity	0.0	7.7	30.8	40.4	15.4	5.8	2.81	13
• Organisational mindfulness	0.0	11.5	28.8	30.8	17.3	11.5	2.88	8
• Sense making	0.0	13.5	34.6	28.8	11.5	11.5	2.73	14

Table 4 presents a comparison of the importance and experience of core values and value factors by workers in terms of MSs between 1.00 and 5.00, and the percentage experience constitutes of importance.

In terms of the percentage experience constitutes of the importance of value factors, the percentages range between 48.6% (self-organisation) and 66.7% (equity). The ten highest percentages are relative to equity (66.7%), diversity (64.7%), inquiring interpersonal actions (62.4%), reflexivity (61.0%), heedful organising (60.5%), decent work (59.5%), social support (59.4%), collaboration (59.1%), self-realisation and self-actualisation (57.8%), and quality relationships (57.6%).

In terms of the percentage experience constitutes of the importance of core values, the percentages range between 49.7% (responsibility) and 60.1% (justice).

Table 4: Comparison of the importance and experience of core values / value factors by workers

Core Value / Value Factor	MS		Exp.
	Imp	Exp	% of Imp.
Interconnectedness:	**4.08**	**2.83**	**59.3**
• Collaboration	4.35	2.98	59.1
• Heedful organising	4.11	2.88	60.5
• Quality relationships	4.30	2.90	57.6
• Social support	3.81	2.67	59.4
Participation:	**3.96**	**2.56**	**52.7**
• Autonomy	3.69	2.49	55.4
• Empowerment	4.19	2.65	51.7
• Self-organisation	4.19	2.55	48.6
• Social inclusion	3.78	2.55	55.8
Trust:	**4.70**	**2.96**	**53.0**
• Respect	4.70	2.96	53.0
Justice:	**4.27**	**2.97**	**60.1**
• Decent work	4.43	3.04	59.5
• Diversity	4.09	3.00	64.7
• Effort and reward balance	4.43	2.88	54.8
• Equity	3.94	2.96	66.7
• Fairness	4.48	2.96	56.3
Responsibility:	**4.76**	**2.87**	**49.7**
• Fair and open communication (transparency)	4.76	2.87	49.7
Development and growth:	**3.92**	**2.72**	**59.0**
• Informedness	4.35	2.86	55.5
• Inquiring interpersonal actions	3.74	2.71	62.4
• Reflexivity	3.69	2.64	61.0
• Self-realisation and self-actualisation	3.89	2.67	57.8
Resilience:	**4.30**	**2.81**	**54.7**
• Adaptivity	4.26	2.81	55.5
• Organisational mindfulness	4.38	2.88	55.6
• Sense making	4.26	2.73	53.1

Respondents were requested to provide comments in general regarding the recognised value factors in terms of their role in the HSW of construction workers. Selected comments include:

• "Workers are seen as a resource to complete a project, and when the project is running down they are de-mobbed as soon as possible, irrespective of the value they can add to the company they have been working for."

• "Workers are bullied into a situation where it is clear that they must do as senior staff insist or face penalties, sometimes even loss of employment, this has the effect that workers do as they are told. I, for one had many discussions with the workers at grassroots level and I know that they DO have positive contributions to make, yet that are not given the chance."

• "Further research is required re decent work environments. The South African government and private procurement systems should modernise their systems to allow for greater transparency throughout their supply chains. The UK's recent launch of their Modern Slavery Act could be used as a starting point."

CONCLUSIONS

As stated above, owing to the low response rate, the findings can be deemed to be indicative, but likely to be from the more committed practitioners, and practitioners who are familiar with, and / or interested in, the subject area of HSW in construction, which reinforces the validity of the findings.

Given the importance of the core values and value factors in terms of supporting HSW, it can be concluded that a holistic approach needs to be adopted relative to H&S, and that well-being needs to be included in the 'equation' and focused on. Furthermore, it is no longer a case of merely employing workers and addressing H&S, but rather addressing workers' wider needs as reflected in the core values: responsibility; respect; resilience; justice; interconnectedness; participation and development and growth.

Given that the perceived experience of the value factors by workers expressed as a percentage of importance ranges between 48.6% and 66.7%, it can be concluded that the nature of the construction industry in the form of the manifestation of value factors is not conducive to HSW.

This conclusion has implications for the construction industry in the short to medium term as workers may no longer be willing to entertain the status quo. Furthermore, the construction industry may be viewed as a 'last resort', and therefore not necessarily attract the preferred 'employee'.

The empirical findings reinforce the HSW framework as evolved by Zwetsloot, van Scheppingen, Bos, Dijkman, & Starren (2013) in terms of the importance of the core values, and value factors.

RECOMMENDATIONS

The construction industry needs to focus on the health component of H&S, and realise that well-being is an essential component of the 'duty of care' and respect for people.

H&S programmes in construction need to be expanded to increase focus on the health component, and to include well-being issues. Tertiary-level built environment education, particularly construction management, needs to address well-being issues. However, all stakeholders need to be conscious and mindful of the implications of project-wide decisions on the HSW of the construction team.

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