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. Literature indicates that seven core values and twenty-two value factors have been identified as supportive of HSW, the core values being: interconnectedness; participation; trust; justice; responsibility; development, and growth. A selfadministered questionnaire survey was conducted among registered construction H&S practitioners in South Africa to determine the importance of, and perceived experience by workers of seven core values and twenty-two value factors in supporting HSW in construction. The findings include that 11 / 22 value factors are of near major to major / major importance in terms of supporting HSW in construction. However, perceived experience expressed as a percentage of importance, ranges between 48.6% and 66.7%. Conclusions include: the manifestation of core values and value factors is not conducive to HSW; well-being needs to be included in the H&S 'equation' and focused on; a holistic approach needs to be adopted relative to H&S, and workers' wider needs as reflected in the core values should be addressed. Recommendations include: H&S programmes need to be expanded to include well-being issues, and appropriate general management and human resource practices should be implemented in the business of construction, and on projects.

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

INTRODUCTION

The report 'Construction Health and Safety Status and 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 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 / 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, and Starren (2013) argue that individual values are recognised as HSW influencing factors, however, they contend a good overview of HSW-related values is missing. Their study aimed to fill this gap by

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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? Their 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?

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

Given the abovementioned, an exploratory study was conducted in South Africa, the objectives being to determine the perceived importance of the seven core values, and twenty-two value factors in terms of supporting HSW as per the framework evolved by Zwetsloot, van Scheppingen, Bos, Dijkman, and Starren (2013), and the perceived experience of the seven core values, and twenty-two value factors by workers.

REVIEW OF THE LITERATURE

Values in General

Values are defined as: code of behaviour, ethics, standards (moral) and principles (Allen, 1990). The European Foundation for Quality Management (EFQM) (2013) in turn 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 behaviour of individuals and teams and serve as broad guidelines in all situations."

The Identification of Core Values and Value Factors Relative to Health, Safety, and Well-Being

Twenty-nine values or value-laden concepts were identified by Zwetsloot, van Scheppingen, Bos, Dijkman, and Starren (2013), courtesy of the survey 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. For example, interconnectedness (core value), and 'social support' (an expression thereof).

The first workshop included fourteen stakeholders, who:

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

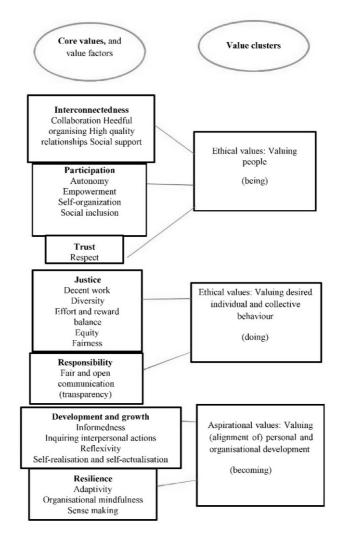
The second workshop included eight stakeholders, who:

- Were required to clarify the meaning of core values;
- 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, and
- Finally, as a last step 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, twenty-two 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 behaviour (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, and 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, and 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 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, per e-mail. 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

Due to the low mean response rate, the findings can be deemed to be indicative, however, they are likely to be from the more committed practitioners, and practitioners that are familiar 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 twenty-two value factors in terms of supporting HSW in construction in terms of percentage responses to a scale of 1 (not) to 5 (very), 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.

In terms of 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). The collective MSs and rankings have been emboldened in the MS and rank (R) columns.

A review of the MS ranges provides further insight with respect to the importance of the value factors. It is notable that 11 / 22 (50.0%) MSs > $4.20 \le 5.00$, which indicates that the value factors are between more than important to very / 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 11/22 (50.0%) MSs > 3.40 \leq 4.20, which indicates that the value factors are between important to more than important / more than important.

Table 2: 1	<i>The importance</i>	of core values /	value factors
	1	5	9

C			N			Respon		140	P
Co	re value / Value factor	U	Not 1	2	3	4	Very 5	MS	R
Int	erconnectedness:		1	2	5	4	5	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
Pa	rticipation:							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
Re	spect:							4.70	2
•	Respect	0.0	0.0	3.7	1.9	14.8	79.6	4.70	2
Jus	stice:							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
Re	sponsibility:							4.76	1
•	Fair and open communication (transparency)	0.0	0.0	1.9	3.7	11.1	83.3	4.76	1
De	velopment 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
Re	silience:							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
	0								

Table 3 indicates the experience of seven core values and twenty-two value factors in terms of supporting HSW in construction by workers in terms of 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 $MSs > 4.20 \le 5.00$ - between a near major to major / major extent. Similarly, in the case of $> 3.40 \le 4.20$ - 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'.

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Table 3: The experience of core values / value factors by worke	ers
1	

			Response (%)						
Co	re value / Value factor	U					Major	MS	R
		U	1	2	3	4	5		
Int	erconnectedness:							2.83	4
٠	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
٠	Quality relationships	1.9	1.9	36.5	38.5	11.5	9.6	2.90	7
٠	Social support	0.0	13.7	33.3	33.3	11.8	7.8	2.67	17
Pa	rticipation:							2.56	7
٠	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
Re	spect:							2.96	2
•	Respect	1.9	13.5	25.0	25.0	21.2	13.5	2.96	6
Jus	stice:							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
Re	sponsibility:							2.87	3
•	Fair and open communication	0.0	17.3	28.8	21.2	15 4	17.3	2.87	11
	(transparency)	0.0	17.5	28.8	21.2	15.4	17.5	2.87	11
De	velopment 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-	5.0	12.5	26.5	21.2	12.5	0.6	2 (7	16
	actualisation	5.8	13.5	36.5	21.2	13.5	9.6	2.67	16
Re	silience:							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 / 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).

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

		MS	Exp.
Core Value / Value Factor	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
C C			

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

DISCUSSION

As stated earlier in the paper, due to the low response rate, the findings can be deemed to be indicative, however, they are likely to be from the more committed practitioners, and practitioners that are familiar and / or interested in the subject area, which reinforces the validity of the findings.

Although it can be argued that workers were not surveyed to determine the importance of, and their experience of core values / value factors, the general level of education of South African workers is such that workers would likely not have understood and appreciated the respective core values / value factors.

Extensive research has been conducted relative to values, however, as stated by Zwetsloot, van Scheppingen, Bos, Dijkman, and Starren (2013), although individual values are recognised as HSW influencing factors, a good overview of HSW-related values is missing. Therefore, the study focused on the importance of HSW-related values in the form of core values / value factors, and the perceived experience thereof by workers.

Given the percentage 'perceived' experience constitutes of the importance of value factors, clearly there is major potential for improvement. Furthermore, given that this is 'perceived', the 'actual experience' according to workers may be lower.

The mean MS in terms of the importance of the value cluster 'valuing people' (being) comprised of the core values interconnectedness, participation, and trust is 4.25, and in terms of experience is 2.78. The mean MS in terms of the importance of the value cluster 'valuing desired individual and collective behaviour (doing)' comprised of the core values justice and responsibility is 4.52, and in terms of experience is 2.92. The mean MS in terms of the importance of the value cluster 'aspirational values: valuing (alignment of) personal and organisational development (becoming)' comprised of development and growth, and resilience is 4.11, and in terms of experience is 2.77. It is notable that the value cluster 'valuing desired individual and collective behaviour (doing)' is ranked first in terms of importance. However, the MS is skewed by the MS of the 'responsibility' core value (4.76). Although, the partner MS of the 'justice' core value is substantially lower, namely 4.27, three value factors' MSs are notable, namely fairness (4.48), decent work (4.43), and effort and reward balance (4.43).

Given the importance of the seven core values, and twenty-two value factors in terms of supporting HSW according to the literature, and the empirical findings, a holistic approach characterised by a focus on the respective core values and value factors is required. The traditional focus on H&S issues is clearly insufficient, and appropriate general management and human resource practices should be implemented in the business of construction, and on projects.

Furthermore, currently the focus of H&S programmes in the South African construction industry is on H&S, and in turn, more on safety than on health issues, let alone wellbeing issues (Smallwood, 2015). However, the irony is that many of the core values and value factors that constitute wellbeing issues impact directly on H&S performance, namely: collaboration, and heedful organising (interconnectedness); autonomy, empowerment, and self-organisation (participation); effort and reward balance (justice); fair and open communication - transparency (responsibility); informedness, and inquiring interpersonal actions (development and growth), and adaptivity, organisational mindfulness, and sense making (resilience). Then, manifestation of many of the core values and value factors are dependent on optimum H&S: respect (trust); decent work, equity, and fairness (justice), and self-realisation and self-actualisation (resilience).

CONCLUSIONS

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 may not attract the preferred 'employee'.

The empirical findings reinforce the relevance of the framework as evolved by Zwetsloot, van Scheppingen, Bos, Dijkman, and Starren (2013) in terms of the importance of the core values, and value factors, which framework was not empirically tested.

RECOMMENDATIONS

Appropriate general management and human resource practices should be implemented in the business of construction, and on projects, and should precede or at least accompany HSW practices and interventions. A case of simply applying the basics of construction management, and more specifically industrial psychology principles, which manifests itself in the form of the seven core values, and twenty-two value factors.

The construction industry first 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 need to be expanded to increase focus on the health component, and to include well-being issues, which are represented by the seven core values, and twenty-two value factors. Therefore, employer associations should provide leadership, raise, or for that matter, create awareness relative to well-being, and amend their industry-wide H&S programme, H&S star grading, and H&S competition programmes.

All professional associations, especially H&S and construction management associations, and statutory built environment councils should provide leadership, raise, or for that matter, create awareness relative to well-being, and evolve practice notes relative to HSW.

Tertiary built environment education, especially construction management, needs to address well-being issues.

All stakeholders need to be conscious and mindful of the implications of project-wide decisions on the HSW of the construction team, and especially workers, who are generally from the low-income group, and vulnerable.

REFERENCES

- Allen, RE (1990) *The Concise Oxford Dictionary of Current English 8 Edition*. New York: Oxford University Press, Inc.
- Construction Industry Development Board (CIDB) (2009) Construction Health and Safety in South Africa Status and Recommendations. Pretoria: CIDB.
- European Foundation for Quality Management (EFQM) (2013) European Foundation for Quality Management Excellence Model. Brussels: EFQM.
- Smallwood, JJ (2015) Optimising the Elements of a Construction Health and Safety (H&S) Programme and Audit System, In: Proceedings 9th Brazilian Symposium on Construction Management and Economics (SIBRAGEC), 7-9 October 2015, São Carlos, Brazil, 399-406.
- Zwetsloot, G I J M, van Scheppingen, A R, Bos, E H, Dijkman, A and Starren, A (2013) The core values that support health, safety, and well-being at work, *Safety and Health at Work*, 4, 187-196.