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Heinecke-Müller, Michaela; Quaiser-Pohl, Claudia; Kariuki, Priscilla W.; Arasa, Josephine N.

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Research Article

Michaela Heinecke-Müller*, Claudia Quaiser-Pohl, Priscilla W. Kariuki, Josephine N. Arasa

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Abstract: In Western personnel psychology, control beliefs are a valued predictor for work-related outcomes. Yet, little is known about the culture-specific functioning of control in East Africa. Kenya, as an *Ubuntu* culture, is examined regarding control beliefs and contrasted with a German sample considered to represent an individualistic or Western culture. Responses to N=143 quantitative personality tests were attended with qualitative interviews on control beliefs (self-concept of ability, internality, powerful others, and chance). Content validity and factor structure of control beliefs were analyzed, followed by a Procrustean target rotation. Linear regression analyses were conducted to assess the predictability of job performance, achievement motivation, and well-being. Item comprehension, as well as factor structure of the four control aspects, differ between the two samples. In particular, the 'powerful others' control aspect diverges the most between the cultures. Linear regression analyses showed comparable, but not fully congruent predictability. Results indicate that an uncritical transfer of the control beliefs measure from one culture to another is inappropriate. Results fit in the picture of African *Ubuntu* philosophy, emphasizing social-relational aspects shaping control beliefs. More emic-etic based research is demanded concerning intra- and intercultural variability of control beliefs to depict a transcultural applicable and invariant model.

Keywords: Control beliefs; emic-etic; Ubuntu; transcultural; personnel psychology.

1 Control Beliefs in a Globalized Working World

This article reports on work of a German-Kenyan scientific collaboration, investigating transcultural and culture-specific functioning of control beliefs. Responses to personality measures and additional qualitative item information were collected in Kenya and Germany, concurrently. Analyses of the control beliefs' content and factor validities were followed by linear regression analyses. Comparing the predictability of typical work-related outcomes in both cultures, insights are provided on why and how control beliefs can differ in functioning if only one turns attention to it.

Kenya is an economic point of intersection with leading political power fanning-out over the regions of South-East and Central Africa. Its rapid cultural and economic development is mirrored in economic growth indexes: In 2019, Kenya`s GDP growth rate was about five times larger than Germany`s (The World Bank, 2022). Political, economic and cultural relations between the two nations trace back to the 1960s, increasing constantly (Federal Foreign Office Germany, 2019).

This also comes with an increasing demand for psychological counseling (e.g., in the fields of intercultural communications and collaboration, human resources management, training, team work, or well-being), which to date

***Corresponding author: Michaela Heinecke-Müller,** University of Koblenz-Landau, Koblenz, Rhineland-Palatinate, Germany, E-mail: heinecke@uni-koblenz.de
Claudia Quaiser-Pohl, Institute of Psychology, University of Koblenz – Landau, Koblenz, Germany
Priscilla W. Kariuki, Department of Psychology, University of Nairobi, Nairobi, Kenya
Josephine N. Arasa, Psychology Department, United States International University-Africa, Nairobi, Kenya

has to build upon a small basis of research data. For lack of *emic* instruments (as being culture-specific "from the inside"), foreign measures have often been transferred to Kenya, although they are referred to as being "W.E.I.R.D." (W.estern, E.ducated, I.ndustrial, R.ich, D.emocratic; Henrich, Heine & Norenzayan, 2010). Such an *etic* approach (as focusing on universal features) is definitely useful per se, but it is advisable here, "[...] to describe a construct or theory with an integrated or balanced treatment of universal and culture-specific aspects." (Cheung, van de Vijver & Leong, 2011; p. 597). This *emic-etic* perspective is taken within this article.

Control beliefs are among the most widely used predictors in the field of Western personnel psychology (Ng, Sorensen & Eby, 2006; Schuler, Höft & Hell, 2014). Renowned for concepts such as self-efficacy and locus of control (Rotter, 1966; Bandura, 1977), psychological control refers to an experience or belief of capability in contrast to (learned) helplessness (Seligman, 1972). Subjective control over desired or unwanted outcomes (e.g., at work) is a necessary condition for goal-striving action (Bandura & Locke, 2003; Mielke, 1984). In the course of life generalized to a personality trait, a sense of control is crucial for any process of action, learning, development, adaptation, success, well-being, and even health recovery (for an overview, see Skinner, 1996). This is why control variables are implemented in a variety of test batteries all over the world, apparently (Judge, Jackson, Shaw, Scott & Rich, 2007). The international management literature has mirrored the multifaceted applications of control, e.g., examining effects on several individual and organizational outcomes (Muchiri, 2011).

We are going to refer to psychological control as a core self-evaluation (Judge, Bono & Thoresen, 2003) that is, according to Krampen (1991), composed of four different aspects: Three of them represent a source of control (internal, external via powerful others, and external via chance or fate), while the fourth is an evaluation of the individual's overall ability to cope with demands. Such a differentiated concept of psychological control beliefs is still not adapted to the intercultural business context beyond the "Western" part of the globalized world. Research has focused on finding a cross-culturally shared core in only a part of the picture: Self-efficacy or internality (Luszczynska, Scholz & Schwarzer, 2005; Scholz, Gutiérrez Dona, Sud & Schwarzer, 2002; Beierlein et al., 2012; Décieux et al., 2020), however, predominantly seen as a unidimensional trait. Krampen's four-factorial model has been translated and transferred to multiple cultures (e.g., Columbia, Canada, South Korea, and Uganda) in diverse application fields (e.g., clinical, work and organizational, environmental, and educational psychology), as well[1]. Still, a thorough analysis of culture-specific processes that might form different aspects of control beliefs is missing. According to Smith, Trompenaars and Dugan, it would long be "[...] useful to differentiate items relevant to the differing degrees of continuity and commitment, thereby reflecting the differing social organization of individualist and collectivist cultures" (1995, p.396).

Ongoing exchange of a German-Kenyan panel of experts (since 2016; Arasa, Echterhoff, Heinecke-Müller, Kariuki, Mwiti & Quaiser-Pohl, 2016) has recognized the relevance of efficacy beliefs for both cultures. In Kenya, though, control beliefs would not confine mastery to the individual alone, but rather intertwine the self-perception with others' capabilities, while considering their characteristics and needs. The culture-specific background of *Ubuntu* philosophy (Bolden, 2014) in a relatively collectivistic context (GLOBE, 2020) might shift comprehensions of control in direction of social-relational aspects (Eaton & Louw, 2000). African countries are broadly recognized as being collectivistic in the sense of Hofstede's cultural dimensions (Hofstede Insights, 2022), resulting in an identity that relates to others and even overlaps with the selves of others, when the social group is of importance (Ma & Schoeneman, 1997).

Even more distinguishing for the sub-Saharan Region is a specific mindset that many non-Africans might mistake for a computers' operation system: "[Ubuntu] is a worldview that emphasizes the commonality and interdependence of the members of the community" (Letseka, 2012, p.54). Shared by all black African communities under various names, the most popular statement is: *umuntu ngumunto ngabantu* (Zulu-language for "A person is a person through other persons"; Mugumbate, 2021). By contrast, W.E.I.R.D. measures imply, that fellow human beings, God, fate, or luck are opposed to the individual's positive part of the self-concept.

The control theory has advanced scholarly understanding of self-referred cognitive processes pertaining to goal-striving action and coping with demands: Correlations of control with well-being, persistence, motivation, coping, personal adjustment, achievement, and success (amongst other positive outcomes) have proven to be substantial and stable (Skinner, 1996). However, culture-specific comprehensions and functioning of differentiated control aspects are still a nearly unexplored field. This applies to those aspects of control, that are referred to as being perceived 'external'

1 Examples from the literature: Anderson et al. (2005); Gòmez et al. (2001); Hirschi (2011); Kim et al. (2013); Milz et al. (2016); Pruessner et al. (2004); Scherling et al. (2012); Schmidt et al. (2014); Sittenthaler et al. (2015).

(e.g., powerful others, chance), but as well to their relation with the 'internal' part. The scarcity of research data still given for Africa - and for Kenya in particular - is clearly in conflict with the cultural diversity of the African continent still to explore (GLOBE, 2020; Hofstede Insights, 2022).

The aim of the current research is to go beyond the claim of universality and gather first data on the functioning of control beliefs in Kenya compared with a German sample: What unifies and what distinguishes a Kenyan control belief from a German in qualitative terms? What quantitative differences can be explained by living in a Western or Ubuntu culture? Carefully considering that culture is diverse and developing even if particular regions or even working populations are in focus (Jackson, 2013; Ma & Schoeneman, 1997), a ready-made instrument for transcultural use is explicitly not delivered. Instead, this reports of how to begin from the start in a research team of two cultures: Collecting culture-specific information in both countries to learn more about a useful personality measure. The binational comparison of content and factorial validity then serves as a basis for transcultural adaptation of the control beliefs measure in the future, as well as for a valid prediction of job-related outcomes.

1.1 Core Self-evaluations of Psychological Control

As here the focus is on personality, the attention lies on more or less generalized perceptions: Core self-evaluations (CSE; Judge, Bono & Thoresen, 2003). Two of the most well-established concepts in this field are the locus of control (Rotter, 1966) and self-efficacy (Bandura, 1977). They have been overworked and adapted to diverse application fields several times and undergone fundamental conceptual refinements. To sum up only a few characteristics, the sense of control over one's life and experiencing self-efficacy has proven to be closely related to well-being and optimism in stress appraisal over the whole life span (Brandtstädter & Renner, 1990; Luszczynska, Gutiérrez-Dona & Schwarzer, 2005). One feels comfortable and thinks positive about life (Brandtstädter, Krampen & Greve, 1987). Sensing control protects from illness and promotes recovery (Harrow, Hansford & Astrachan-Fletcher, 2009). Control is the basis of goal-striving action and has wide influence on the motivation to learn and act effectively (Bandura & Locke, 2003). As a personality trait, control beliefs are only of a medium degree of abstraction, so their predictive validity is comparatively high: Applied in the field of personnel selection and training, control measures tend to outperform "bigger" constructs such as the Big Five (Ng, Sorensen & Eby, 2006, p. 1074). We can state a gain in performance up to 28% due to an area-specific competence belief (Stajkovic & Luthans, 1998), accompanied by positive task and social experiences as well as increased job motivation (Ng, Sorensen & Eby, 2006). Crises in work life can be handled more flexibly and therefore result in an improved job situation (Heinecke, 2013). In Kenya, self-efficacy was found to be a mediator and moderator of servant leadership effects (Walumbwa, Hartnell & Oke, 2010).

We are going to refer to (psychological) control beliefs, which are a part of CSE and include several aspects, one of them being self-efficacy (Schwarzer & Jerusalem, 1995). Control beliefs comprise generalized expectancies referring to certain forces that may lead to consequences desired or unwanted: Is a goal attainable with one's own competence and effort, are others in power, or would it be a question of chance or fate (Skinner, 1996)? Krampen (1988, 2005) integrated these aspects into a theoretical model that assumes four more or less independent factors that sum up to higher levels commonly called the internal or external locus of control (see Figure 1). There are aspects, which feed the internal control belief (e.g., one's own competence to act effectively and the effort invested even when meeting with obstacles) and there are other aspects that feed the external side (such as effects induced by chance or powerful others). Designed to be directly opposed to each other, the external control score reduces the internal score.

This common core idea of most established measures is in question here. It mirrors a typical W.E.I.R.D. worldview that is not necessarily shared by Kenyans: The allocation of *powerful others* to the external side of the balance, and thus reducing the global control score, conflicts with the social-relational accent of Ubuntu-culture (Ma & Schoeneman, 1997; Fetvadjiev, Meiring, van de Vijver, Nel & Hill, 2015). The same holds true for *chance*, since in East Africa, religiosity is perceived as one major resource for coping (Kariuki, 2016) and could as well feed the internal side of the balance. Research to date still overemphasizes the perspective of the individual struggling against all obstacles. Focusing on the 'internal' control beliefs (such as self-efficacy and internality) neglects the impact of powerful others and chance or fate, although they may contribute to a positive self-evaluation. This could already be documented for the so-called collective efficacy beliefs (Zaccaro, Blair, Peterson & Zazanis, 1995). Nonetheless, internality is acknowledged to be of

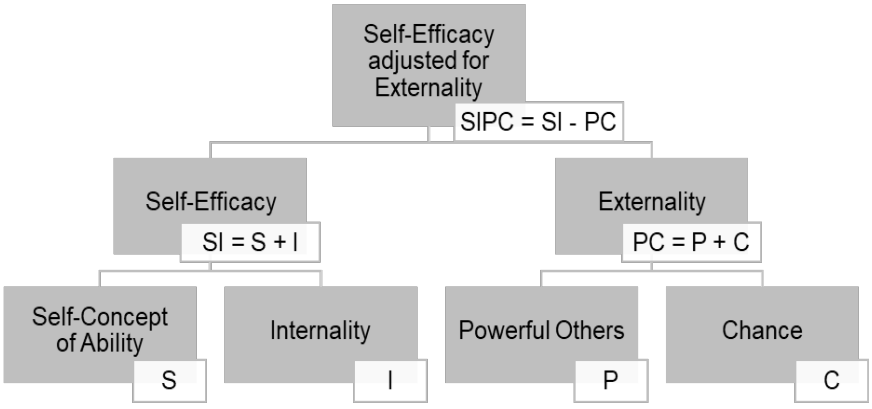

Figure 1: Conceptual structure of the FKK-/I-SEE-measure according to Krampen (1991).

high value in most cultures. Thus, it is basically expected to correspond with work-related outcome variables in Kenya just as it does in W.E.I.R.D. labeled countries, such as Germany.

1.2 Culture-specific Comprehensions of Control Beliefs in Germany and Kenya

There is ample research indicating control being a universal psychological construct, but undergoing subtle shifts in shape while meeting culture-specific comprehensions (Liu & Wilson, 2011; Luszczynska, Scholz & Schwarzer, 2005; Scholz, Gutiérrez Dona, Sud & Schwarzer, 2002). Priority and meaning of certain control strategies vary while coping with demands (Flammer et al., 1995; Jonas, Graupmann, Kayser, Zanna. Traut-Mattausch & Frey, 2009; Luszczynska & Schwarzer, 2005). What proves to be a reliable personality profile in Europe does not necessarily work the same way in sub-Saharan Africa. This picture is supported by personality research on the Five Factor Model (FFM; Schmitt, Allik, McCrae & Benet-Martinez, 2007). The South African Personality Inventory project discovered several culture-specific aspects of personality in South Africa, that had not been covered yet by the Western Big Five (Fetvadjiev, Meiring, van de Vijver, Nel & Hill, 2015). Although a specific pan-African personality could not be discovered (Zecca et al., 2013), culture-specific personality features belonging to the social-relational domain are approved, so far (Arasa & Muhoro, 2016; Kamoche, 2011).

As given in some Asian societies, in African populations as well there may be an emphasis on *collective* efficacy beliefs (Maimon, Browning & Brooks-Gunn, 2010; O'Neill, McLarnon & Law, 2016). Another possibility is that control recomposes according to a culture-specific worldview. Such could be fatalistic or indirect forms of control carried out as religiosity or experiencing control with a socially extended self (Okeke, Draguns & Sheku, 1999). Beyond the surface of predictive validity, there is a lack of information about how a person from East Africa might comprehend certain verbalizations of control measures usually applied as questionnaires (Arasa et al., 2016).

Ubuntu philosophy - popularized by Nelson Mandela and Desmond Tutu, amongst others - emphasizes responsibility and involvement of the individual in the public spirit even up to the level of the surrounding universe (Swanson, 2012; Tutu, 1999, p. 35). By comparison, the W.E.I.R.D. and individualistic worldview rather focuses on competition and self-reliance (see also Triandis, 2002). Although converging to a globalized lifestyle in the metropolises all over the world, cultural differences shape the way people perceive, think and act (Mwipikeni, 2018). These styles are of importance for goal striving action such as required at work, because they influence control beliefs (Judge, Bono & Thoresen, 2003). Ubuntu has proven to impact commercial and business behavior (Karsten & Illa, 2005). It serves as a leadership philosophy (Malunga, 2009) and frames interconnections found for organizational climate, leadership, employee attitudes and individual behavior (Walumbwa, Hartnell & Oke, 2010). In local communities' business, where goals seem to be pursued relatively free from the adjustment pressure of globalization, such culture-specific styles are of increased significance (Jackson & Haines, 2007).

The typical Western overemphasis of individual or internal control falls short of capturing culture-specific agency (Smith, Trompenaars & Dugan, 1995). If there are intercultural differences detectable between the two cultures of Germany

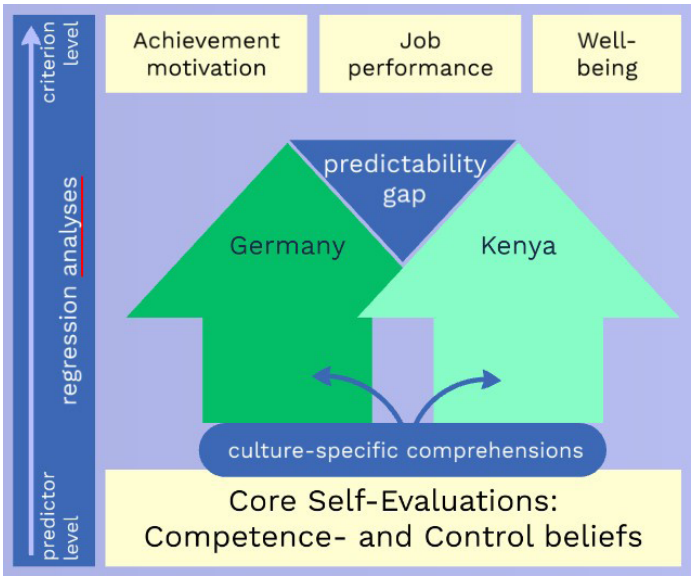

Figure 2: Research question.

and Kenya, they would most likely reveal when all facets of control are included and analyzed separately. If they are transferred to Kenya, do they contribute to predict professional success, well-being, achievement motivation, and job performance as they do in Germany? What culture-specific meaning is detectable behind these relationships? Figure 2 depicts this research question, assuming a predictability gap explained by data-based qualitative and quantitative research. It is expected that the Ubuntu-worldview differs from the Western European in a way, that mixes up forms of control initially thought to be separate or opposite from each other: Social-relational aspects relocate *external* control items to the *internal* control balance. As a result, existing approaches to define and measure control beliefs will have to be refitted for transcultural application, providing for a content valid, reliable and fair assessment of vocational personality features in the target culture(s). This can only be achieved with an emic-etic approach, considering all levels and categories that would impact measurement equivalence (Cheung, van de Vijver & Leong, 2011).

Hypothesis I: Control beliefs are perceived in a culture-specific way, inducing significant differences when measured in Kenya and in Germany. According to the social-relational aspects of *Ubuntu* culture, Kenyan responses to a Western measure should mirror this difference in item comprehensions and a distinct factorial organization of control aspects.

Hypothesis II: Control beliefs work as a predictor for outcomes such as occupational achievement motivation, job performance and well-being. This holds true for both cultures in a comparable, but not completely congruent way. Differences in the predictive value of control trace back to culture-specific item comprehension (according to hypothesis I).

2 Method

2.1 Sample Structure

N=143 surveys were conducted, consisting of a total convenience sample with n_G =52 German and n_K=91 Kenyan test persons[2]. All subjects were recruited around the environment of large cities' universities, informed adequately and took part voluntarily. No dropouts occurred in the survey period. As a compensation, German students were offered credit points for mandatory participation in university research. Kenyan subjects received 10 Euro each. Of the Kenyan sample, 57% agreed to do a longer test version with additional qualitative questioning on test items (Germany: 27%). In general, age, education, and the global score for psychological control are intercorrelated - SIPC (global score; see

2 Data can be retrieved from the corresponding author.

Table 1: Sample Structure.

	Germany (n_G = 52)			**Kenya (n_K = 91)**		
Age[a]	*M* = 27 *SD* = 8			*M* = 31 *SD* = 10		
Gender %	Male	Female		Male	Female	
	35	65		40	60	
Composition %	Students	Academic Staff	MME[b]	Students	Academic Staff	MME[b]
	75	22	4	25	11	65
Education[c] %	University Entrance:		60	University Entrance:		11
	Bachelor:		8	Bachelor:		69
	Master:		23	Master:		14
	PhD:		4	PhD:		3
	Other:		< 2	Other:		< 2
Internality[d]	*M* = 51 *SD* = 23			*M* = 67 *SD* = 22		
Job Control[e] %	84			86		

[a] $t(139) = -2.63$, p = .007.
[b] Middle management employee.
[c] χ^2 (5, *N* = 141) = 60.40, $p < .001$.
[d] Raw score obtained from SIPC (Krampen, 199; Greve, Anderson & Krampen, 2001), $t(138) = -3.92$, p < .001.
[e] "Do you feel your job description is clearly defined and realistic?".

Figure 1) tends to grow over the life span first, then it decreases again from the mid adulthood on (Krampen, 2005). To facilitate linear regression modeling, as well as for better comparability of the subsamples, all individuals older than 40 years were excluded from further analyses (14 from Kenya with *M* = 51 and 5 from Germany with *M* = 47 years). Job control was recorded to control for sample effects on control orientation scores (Bandura, 1977; Krampen, 1991, 2005). The resulting structure in Table 1 shows two roughly comparable subsamples, given that the Kenyan group is of slightly higher age and education, and provides a higher number of middle management employees. Most likely, this is a result of local accessibility to higher education combined with economic necessities or circumstances. When asked in an open question to which (sub-) culture one belongs, the Kenyan sample gave a total of 16 different identifications (20% Kikuyu, 11% African, 9% Luo, 8% Kamba, [...]). In the German sample, 13% of subjects declared to belong to another culture than "German" only.

2.2 Procedure and Measures

A paper-pencil *questionnaire* survey was conducted between 2017 and 2018 in Germany and Kenya, concurrently. The questionnaire was presented in German or English (for the Kenyan sample). The Kenyan population is of high cultural diversity with about 70 regional languages spoken (English and Kiswahili being official languages). While a Kenyan person is quite commonly fluent in three languages, the English language seemed to provide the highest comparability in consideration of the tests applied. For the same reason, recruiting test subjects was focused on an urbanized university context in both countries. Personality tests were attended with qualitative interview questions on meaning and emotional quality of the control beliefs' items. Content validity and factor structure of the control beliefs' measure were analyzed, followed by a P*rocrustean target rotation (*van de Vijver & Leung, 1997). This technique provides fit indices for a comparison of the two samples' factor loading structures (with regard to control beliefs). Last, linear regression analyses were conducted to assess the predictability of job performance, achievement motivation, and well-being questionnaires in both samples. In sum, these analyses mirror the early stage of research in the cross-cultural application field. Instead of only imposing etic (foreign or universal) theory, measures and procedures, certain content and mindsets are allowed to impact results from the emic (culture-specific) side of the coin. By comparing item comprehension and factor structures in both cultures, information is collected on *why* certain outcomes are

Table 2: Applied Measures for Outcomes of Control Beliefs.

Variables	Measure(s)		Parts included
	German	English	
Occupational achievement motivation	LMI Leistungsmotivations-inventar (Schuler & Prochaska, 2001)	AMI Achievement Motivation Inventory (Schuler, Thornton, Frintrup & Mueller-Hanson, 2004)	Persistence* Dominance* Engagement* Confidence in success* Flexibility* Eagerness to learn* Preference for difficult tasks* Goal setting*
Business-focused personality features	BIP Bochumer Inventar zur berufsbezogenen Persönlichkeits-beschreibung (Hossiep & Paschen, 1998)	BIP Business-focused Inventory of Personality (UK Edition; Paschen & Rust, 2008)	Achievement motivation* Power motivation* Leadership motivation* Flexibility* Action orientation* Assertiveness* Emotional stability* Working under pressure* Self-confidence*
Well-Being	WHO (Five) Well-Being Index (Psychiatric Research Unit, 1998)	WHO (Fünf) – Fragebogen zum Wohlbefinden (Psychiatric Research Unit, 1998)	-

*For each part one marker item was selected

not predictable in a comparable way. Subsequent hypotheses testing research (e.g., conducting confirmatory factor analyses) on cross-culturally adapted measures is prearranged, though.

The entire questionnaire consisted of four sections: 1. *Psychological control beliefs*. Currently, there are two measures most widespread in the German language area (amongst others), both with a different focus. The General Self-Efficacy Scale (GSES; Schwarzer & Jerusalem, 1995) is a ten-item unidimensional scale aiming at the belief in one's own ability to cope with somewhat unfamiliar or difficult situations as well as to overcome occurring obstacles. Due to its unidimensional design, this measure was excluded from the analyses reported here. At the price of a three times longer item list, the Competence- and Control beliefs questionnaire (German: FKK, Krampen, 1991; English: I-SEE, Greve, Anderson & Krampen[3]) provides a hierarchical structure of intercorrelating, but nonetheless distinctive scales: Self-concept of ability, internal control orientation, chance control orientation, and powerful others control orientation (see Figure 1). Internal consistencies of each scale are shown in Table A1 in the Appendix. For Germany, Cronbach's Alpha values correspond with the norm samples given in the questionnaire's manual. For Kenya, the internal consistency scores are smaller, as was to be expected. Parts of the subjects answered additional three questions on each test item. These were developed a priori at bilateral experts' workshops, aiming at item comprehension and emotional quality (responses ranged from one word up to three sentences):

a. Please give some spontaneous comment! What comes to your mind when you look at this question? (explorative question, not reported here).
b. Please explain, how you understand this question! What does it mean in your words?
c. Please judge this question regarding to how you feel with it! Is it of rather good or bad emotional quality – or both?.

2. *Outcome variables* (see Table 2). According to the current state of research, control beliefs contribute to predict professional success and they do so because they are typically connected with achievement and learning motivation, as well as well-being and job performance. Prospecting long-term studies with professional success as objective criterion, the focus is on functioning in the occupational context rather than how people feel with their job, leader or company.

3 Copyright 2001, by the Name of Copyright Holder and reprinted with permission.

Because there are no emic (Kenyan) personality measures available at the moment, a collection of marker items from German and international scales was applied after discussing opportunities. A list of 22 items covered occupational achievement motivation, business-focused personality features, and well-being, each selected by the highest predictive value as reported in the test manuals. Item scores of the LMI/AMI (Schuler & Prochaska, 2001) were summated to build an index of occupational achievement motivation. According to the BIP scales' conceptual independency of each other, item responses were analyzed separately (Hossiep & Paschen, 1998; Paschen & Rust, 2008). For improved understanding, double negatives were avoided in each scale applied in English.

3. *Culture-related constructs*. The culture related constructs were of explorative interest and are not reported in detail. To give an overview, no remarkable differences in the Social Axioms Scale (Leung et al., 2012) could be detected between the samples, except the responses to Religiosity items (with the Kenyan sample providing a higher mean score). Given that means of the Social Skills Inventory (Riggio, 1986) are not ready to be interpreted comparing the two cultures involved, there are no essential differences to mention.

4. *Demographic items*. Gender, age, (sub-)culture, education and additional training as well as current occupation were controlled for. For control beliefs being modifiable by actual individual experience, another item was added controlling for perceived global job controllability in the person's current occupation.

3 Results

3.1 Hypothesis I: Culture-specific Differences in Control Beliefs

Multiple sources of data were examined to gather information on presumed differences between the German and the Kenyan samples' FKK/I-SEE perceptions. First, the comprehension of each single items' content was analyzed, including the perceived emotional quality. From the German sample, n=14 persons agreed to do this longer test version. From the Kenyan responses, a random sample of n=9 from 52 was drawn for economic reasons. Second, item and scale characteristics were compared. Last, the factorial structure of control beliefs was regarded, conducting explorative factor analyses and a Procrustean target rotation.

3.2 Item comprehension and emotional quality of control beliefs.

The overall picture points to discrepancies in the perception of pure individual versus social-relational aspects of control. Typically, the German subject described individual control as emotionally desirable and as being distinct from external forces. The Kenyan subject typically expresses more diverse reactions to others' control or chance:

While responding to each of the I-SEE/FKK items, participants were asked for their *individual comprehension* of the statements presented, providing explanations in their own words. After a first inspection of the information collected, the following categories each were labeled, checked and counted by three instructed research assistants (interrater reliability was controlled for): 'conform' or 'nonconform' answer (according to FKK/I-SEE scale meaning), and interpretation as Internality (I including S), social externality (P), or fateful externality (C). The overall picture is, that internal and external comprehensions mix up in the Kenyan sample by means of adding social-relational aspects to originally pure internal content (e.g., "Sometimes one needs the help of others to deal with certain situations" rendered as paraphrase for an I-item aimed at being able to protect one's own interests).[4] Of the Kenyan explanations, 76% were rated as being conform. Twelve items showed a blurred comprehensibility. Items belonging to the scale self-concept of ability (S) repeatedly produced mixed to unspecific interpretations that do not fit the intended scale meaning (e.g., "Whether I make sensible argument"). A distinct self-concept of ability that works independently from external or social aspects was not provided here. Plus, originally internal items (S, I) were reflected with social and sometimes emotional content, as well (e.g., "Sometimes one needs the help of others to deal with certain situations"). Items coming from the P-scale were often interpreted as internal, and C-items shifted to the internal. In the German sample (n=13 per item), 93% of the explanations were rated as

4 Additional information and data can be retrieved from the corresponding author.

Table 3: Comparison of FKK/I-SEE Scale Intercorrelations (German Norm Sample - German Actual Sample).

Scale		I	P	C	SI	PC	SIPC
S	Correlation (Pearson)	.38	-.46	-.54	.84*	-.57	.80
	Fisher's *z*	-1.64	0.05	-0.25	-1.83	-0.16	-0.64
	p	.051	.479	.402	.034	.436	.262
I	Correlation (Pearson)	—	-.33	-.51*	.82	-.48	.75
	Fisher's *z*		-0.19	-2.05	-1.22	-1.33	1.00
	p		.424	.020	.111	.091	.160
P	Correlation (Pearson)		—	.59	-.48	.86	-.70
	Fisher's *z*			0.18	-0.24	0.62	1.09
	p			.430	.406	.267	.139
C	Correlation (Pearson)			—	-.64*	.92	-.83
	Fisher's *z*				-1.98	1.11	-1.01
	p				.024	.133	.156
SI	Correlation (Pearson)				—	-.64	.94*
	Fisher's *z*					-1.41	2.63
	p					.079	.004
PC	Correlation (Pearson)					—	-.87
	Fisher's *z*						0.11
	p						.455

*p < .05, indicating a significant difference between observed intercorrelations in two samples.

being conform and thus well reflected the respective scales' meaning. Two items were misunderstood frequently: Item 17 belongs to P, but was often interpreted as asking for I. Item 21 (C) was often rendered as I and/or P.

The perceived *emotional quality* of items ('good', 'bad', 'both', 'neutral') was rated equivalent in both samples for 11 of all 32 items. The majority of these is located at the internal side of control as opposed to the external. German and Kenyan participants (n_G=13, n_K=52 for each of 32 items) perceived these items in a comparable way. Sorted by scale meaning, Internality came with the highest concordance and Externality with the lowest. The Kenyan data provided a wider range of emotional qualities, rating external items as ambivalent or mixed rather than sticking to good or bad emotional quality, only. Items of two scales differed frequently among both samples: Most items capturing externality were perceived as essentially negative by Germans. In the Kenyan sample, there was a major tendency to perceive these items as of positive quality, too. In 'powerful others' this applied for seven out of eight items. Likewise, the perception of 'Chance' items (six out of eight) featured a large overlap between the samples' ratings, but amended by mixed or ambivalent responses in the Kenyan sample.

3.3 Scale characteristics of the control beliefs measure.

Pursuant to the original strategy of the FKK/I-SEE manual, all scales were intercorrelated with each other. Correlational coefficients were then compared between the cultures' samples, using Fisher's z transformation and z-Test[5]. Results display that the social-relational aspect of dealing with others' control is in stark contrast with individual control only for the German samples. The Kenyan sample shows no such contradiction between the two scales.

Table 3 depicts the actual German sample differing from the manual's norm sample in four coefficients. There is a slight disparity in the magnitude of correlations, but mostly within the same category of strength (Cohen, 1988) and always in the same direction (positive or negative).

Comparing the Kenyan with the German norm sample (Table 4 above diagonal), nine differences occurred. Again, most of them differed in strength and not in direction of the correlation. In three cases, there is no meaningful correlation

5 Additional information such as descriptives can be retrieved from the corresponding author. Please note that certain descriptives are not reported here because they must not be intepreted when applied interculturally at this stage of research.

Table 4: Comparison of FKK/I-SEE Scale Intercorrelations (Kenyan Sample – German Norm Sample Above Diagonal) (Kenyan Sample – German Actual Sample Below Diagonal).

	S	I	P	C	SI	PC	SIPC
Self-concept of ability (S)	—	.61	-.37	-.44	.74*	-.44	.79
Correlation (Pearson)		0.73	1.44	0.79	-4.63	1.32	-1.17
Fisher's *z*		0.234	.075	.215	.000	.093	.122
p							
Internal control orientation (I)							
Correlation (Pearson)	.61*	—	-.08*	-.20	.90	-.15	.77*
Fisher's *z*	-1.76		2.10	0.55	1.30	1.58	1.74
p	.039		.018	.291	.097	.057	.041
Powerful others control orientation (P)	-.34	-.08	—	.61	-.08*	.89	-.53*
Correlation (Pearson)	-0.85	-1.45		0.55	3.64	0.59	3.93
Fisher's *z*	.198	.073		.291	.000	.277	.000
p							
Chance control orientation (C)							
Correlation (Pearson)	-.44	-.20*	.61	—	-.24*	.90	-.66*
Fisher's *z*	-.69	-1.99	-0.20		2.02	0.45	2.35
p	.245	.023	.421		.022	.326	.009
SI							
Correlation (Pearson)	.74	.90*	-.08*	-.24*	—	-.18*	.86
Fisher's *z*	1.39	-1.78	-2.45	-2.84		3.28	0.00
p	.082	.037	.007	.002		.001	.500
PC							
Correlation (Pearson)	-.44	-.15*	.89	.90	-.18*	—	-.66*
Fisher's *z*	-0.95	-2.05	-0.87	0.61	-3.17		4.87
p	.171	.020	.193	.270	.001		.000
SIPC							
Correlation (Pearson)	.79	.77	-.53	-.66*	.86*	-.66*	—
Fisher's *z*	0.15	-0.28	-1.56	2.27	2.33	-2.93	
p	.441	.391	.060	.012	.010	.002	

*p < .05, indicating a significant difference between observed intercorrelations in two samples.

detected although there should be one according to the norm sample. All these cases apply to the powerful others scale (P). Contrary to expectations of the instrument's manual and to the German data, in Kenya the P-scale does not seem to be negatively connected with the internality scale (I). The same pattern holds true for the comparison of Kenyan responses with the actual German sample (Table 4 below diagonal). Discrepancies again mostly result from the P-scale not being clearly opposed to the I-scale in the Kenyan sample.

3.4 Factorial structure of control beliefs.

When comparing factor analyses of the samples at hand (German norm, German actual, and Kenyan), the normative structure could only be replicated with the actual German sample. Quantified by a Procrustean target rotation, the German and Kenyan samples match poorly. As soon as the other culture is involved, new factorial compositions occurred. With regard to control theory, the pattern adumbrates two aspects of control, one located internally (S with I) and one externally (P with C).

The FKK/I-SEE control measure is not designed on the basis of factor analytical methods. Nonetheless, the author provides data on an explorative factor analysis for item loadings on the four primary scales (S, I, P, and C, see

Table 5: Procrustean Target Rotation Comparing Factor Structures of I-SEE Responses.

	Factor			
	1	2	3	4
German Actual Sample - German Norm Sample				
Square Root of the Mean Squared Difference	.26	.20	.21	.23
Identity Coefficient	.79	.83	.77	.67
Additivity Coefficient	.78	.82	.67	.66
Proportionality Coefficient	.81	.83	.77	.67
Correlation Coefficient	.79	.83	.70	.66
German Norm Sample - Kenyan Sample				
Square Root of the Mean Squared Difference	.20	.22	.24	.25
Identity Coefficient	.83	.74	.73	.65
Additivity Coefficient	.80	.69	.67	.54
Proportionality Coefficient	.83	.75	.73	.66
Correlation Coefficient	.81	.69	.67	.55
German Actual Sample - Kenyan Sample				
Square Root of the Mean Squared Difference	.31	.31	.30	.32
Identity Coefficient	.71	.57	.58	.39
Additivity Coefficient	.68	.56	.42	.36
Proportionality Coefficient	.72	.59	.58	.40
Correlation Coefficient	.70	.57	.42	.36

Figure 1; Krampen, 1991, 2005). The German norm sample of the test manual serves as standard of comparison for the actual samples of two cultures. In the norm sample, a *principal component analysis* (PCA) with varimax rotation, using the Kaiser criterion and four fixed factors, clearly showed four distinct factors. Moderate scale intercorrelations conformed to expectations with regard to their directions being positive or negative. The actual German sample of this study follows suit, providing four distinct factors well above an Eigenvalue of 2 and with a meaningful charge pattern according to expectations from the manual (see Table A2 in the Appendix). In the Kenyan sample, only two of the four factors represented content conform to theory. As shown in Table A3 in the Appendix, one factor is interpreted as mixed 'internality / self-concept of ability'. The second factor most likely represents an external control belief, composed of 'powerful others', and 'chance'. Factors 3 and 4 did not show a distinct pattern according to theory. In the binational sample, the first two mixed factors reappeared, as given in the Kenyan sample. Factors 3 and 4 again did not show a distinct pattern with regard to the theoretical basis.

A Procrustean target rotation was executed to carry out a target rotation (Syntax according to van de Vijver & Leung, 1997). The purpose is to compare a source- (Germany) and a target- (Kenya) factor loading structure, estimating their similarity. Factor loadings from the explorative factor analyses of FKK/I-SEE scores were inserted to compare the samples' structures with each other. High similarity is indicated, when low square roots of the mean squared difference meet the other coefficients very well above .85 (van de Vijver & Leung, 1997). As presented in Table 5, neither the intracultural German comparison, nor the intercultural German-Kenyan comparison revealed a good match of factor structures. As expected, the German actual and norm samples resembled each other the most, followed by the comparison of the Kenyan and the German norm sample. Similarities between the Kenyan and the actual German sample were the least, confirming results from the PCAs.

3.5 Hypothesis II: Predictability of Work-related Outcomes

The relationship between control beliefs and typically related outcomes could be documented, indicating a somewhat comparable, but not completely congruent predictability for German and Kenyan subsamples. Predicting *achievement motivation*, *assertiveness*, *emotional stability*, *leadership motivation*, *power motivation*, *action orientation*, and *well-*

being the models computed show mostly moderate fit indices. No remarkable difference could be detected between the German and the Kenyan samples. Differences arising from belongingness to one of the cultures were found for *working under pressure*, *flexibility*, and *self-confidence*. To test the predictability of typical outcomes on the basis of control belief (hypothesis II), stepwise multiple linear regression analyses were conducted, taking account of belonging to the German/Kenyan sample by computing a parallel shift. Where appropriate, separate analyses were conducted for the German and the Kenyan sample, respectively. For all procedures, compliance with the specific requirements was checked. If any method did not meet requirements, this is reported.

3.6 Confounding variables.

A stepwise multiple linear regression was computed to predict control belief (FKK/I-SEE global score SIPC; German: FKK, Krampen, 1991; English: I-SEE) on the basis of all demographical variables and job controllability (see A4 in the Appendix). In the mixed German/Kenyan sample, job controllability as well as belonging to one of the cultures proved to significantly predict the global SIPC score. The R^2 for the overall model was .15 (adjusted R^2 = .13), indicative for a moderate goodness-of-fit according to Cohen (1988). Germans scored 16.01 points higher in SIPC than Kenyans did. Subjects who rated their current job as controllable scored 13.23 points higher than those who did not. The difference between the countries, together with the fact that residuals did not meet the requirement of being distributed normally, required separate regression analyses for both samples. In Germany, only job controllability was able to predict SIPC. The R^2 for the model was .11 (adjusted R^2 = .09), indicating a low goodness-of-fit. Germans who declined to perceive their job as controllable scored 21.55 lower in SIPC than the other group. For Kenya, only age was able to predict the SIPC score with an R^2 equal to .08 (adjusted R^2 = .07), indicating a low goodness-of-fit. Kenyans scored 1.12 SIPC-points higher for each year of age.

Each subsample from Kenya and Germany contributes its own confounding factors to the SIPC score observed. The German sample comes with job controllability as a predictor for control belief, whereas the Kenyan sample's response varies with age, rather. Therefore, these impact factors are included in the subsequent regression analyses.

3.7 Occupational achievement motivation.

A stepwise multiple linear regression was computed to predict the occupational achievement motivation index by means of the I-SEE/FKK global score. Table 6 details the best model of regression analysis. In the binational sample, no significant shift was detected between the two cultures. SIPC predicted the achievement motivation index score with R^2 for the overall model = .32 (adjusted R^2 = .31), indicative for a high goodness-of-fit according to Cohen (1988). Women scored .36 points higher in achievement motivation than men did. Comparing the standardized coefficients, SIPC had a more than three times higher beta weight than gender. All requirements for regression analysis were fulfilled well; only for homoscedasticity of residuals, the scatterplot showed a slight funnel shape.

3.8 Work-related outcomes: Job performance.

To sum up, five of nine job performance markers could be predicted with SIPC in both cultures similarly. For one marker, there was a cultural shift detected. Two markers could be predicted in only one of the two cultures. One last marker failed to work as a predictor at all. Each marker item indicating job performance was regarded separately in a stepwise multiple linear regression analysis. The best models are shown in Table A5 in the Appendix, with separate analyses of the German and Kenyan samples where a significant shift between the two cultures was detected.

For *assertiveness* (adjusted R^2 = .18), *emotional stability* (adjusted R^2 = .12), *leadership motivation* (adjusted R^2 = .23), *power motivation* (adjusted R^2 = .06), and *action orientation* (adjusted R^2 = .13) SIPC was found to be the only significant predictor. Models' goodness-of-fit indices ranged from moderate to low according to Cohen (1988). Regression requirements were not perfectly fulfilled in the prediction of *assertiveness* and *leadership motivation*. Residuals deviated significantly from normal distribution and the dot plot showed non-perfect homoscedasticity. As well, in the case of *action orientation* residuals deviated from normal distribution. For *working under pressure*, no linear

Table 6: Stepwise Multiple Linear Regression Analysis for SIPC Predicting Occupational Achievement Motivation Scores in the Binational Sample.

	Stepwise Regression (F 2, 114 = 4870.73, P <.001 adjusted R^2 = .13)				
Predictors	B	SE B	β	t	Sig.
Constant	2.815	.366		7.685	.000
SIPC	.024	.003	.566	7.253	.000
Gender	.364	.164	.173	2.210	.029

β = standardized regression coefficients, B = unstandardized regression coefficients, SE = standard error, SIPC = I-SEE / FKK global score.

Table 7: Stepwise Multiple Linear Regression Analysis for SIPC Predicting WHO-5 Scores in the Binational Sample.

	Stepwise Regression (F 1, 115 = 17.59, P <.001 adjusted R^2 = .13)				
Predictors	B	SE B	β	t	Sig.
Constant	43.894	4.400		9.976	.000
SIPC	.287	.068	.364	4.195	.000

β = standardized regression coefficients, B = unstandardized regression coefficients, SE = standard error, SIPC = I-SEE / FKK global score.

relationship between the variables could be detected in the binational sample, as well as in the Kenyan sample. Within the German sample, SIPC was the only predictor for working under pressure, indicating a moderate goodness-of-fit for the model (adjusted R^2 = .22). For *Flexibility*, no linear relationship could be detected, neither for the binational nor for the German sample. In the Kenyan sample, SIPC was as a significant predictor while the model indicated a low goodness-of-fit (adjusted R^2 = .05). Prerequisites for the analysis were not perfectly fulfilled; residuals deviated from the normal distribution and the boxplot adumbrated funnel shape. Predicting *Self-Confidence* on the basis of SIPC, the regression revealed a parallel shift for belonging to one or the other culture. The model showed a moderate goodness-of-fit (adjusted R^2 = .25). Kenyans scored 0.45 points lower in self-confidence than Germans. SIPC had about two times the predictive weight of belonging to one or the other culture. Residuals deviated from the normal distribution in this analysis and the homoscedasticity dot plot revealed a funnel shaped form. In the separate analysis for Germany, SIPC was the only predictor for self-confidence with the model indicating a high goodness-of-fit (adjusted R^2 = .28). Residuals still seem to show some heteroscedasticity (rhombic dot plot). For the Kenyan sample, SIPC again is the only significant predictor, but the model's goodness-of-fit remains at a low level (adjusted R^2 = .11). As in the total sample, residuals deviated from the normal distribution and the dot plot shows a rhombic shape. For *achievement motivation*, no linear relationship between the variables could be detected in any of the samples.

3.9 Well-Being

To predict well-being with SIPC, a stepwise multiple linear regression was computed (for the best model see Table 7). In the binational sample, only SIPC was a significant predictor for the WHO-5 score. The R^2 for the overall model was .13 (adjusted R^2 = .13), indicative for a moderate goodness-of-fit according to Cohen (1988).

4 Discussion

In this study, the complex of both universal and culture-specific functioning of control beliefs was given close attention. The emic-etic approach of a German-Kenyan research team collected information on the content and factorial validity of

measuring control beliefs in the two cultures. Results provided details on the challenges when 'globalizing' established measures for transcultural use in research and business contexts.

4.1 Hypothesis I: Culture-specific Comprehension and Structure of Control Beliefs

Hypothesis I expected a remarkable difference in the culture-specific item comprehension of control beliefs. This was supposed to be associated with the social-relational domain of personality, presumably originating in the African *Ubuntu* culture. Results on quantitative and qualitative item information, as well as correlational patterns of scales, altogether support this assumption.

The Ubuntu worldview is mirrored quite well in the Kenyan sample's responses to control beliefs: The individual is appreciated for being capable just as it is in W.E.I.R.D. Germany, but in Kenya, this is somewhat filled up (rather than reduced) by the capability of fellow human beings. The control measure applied originally consists of four primary scales which are supposed to quantify control aspects largely independent from each other (Krampen, 1991, 2005). Then, they converge as it is designed by the W.E.I.R.D. perspective: Internal forces (the individual) are reduced by external forces (powerful others and chance or fate). The analysis of scale intercorrelations reveals an intercultural difference in this linkage. As opposed to Germany, the Kenyan sample does not provide a consistent negative correlation between the two aspects or loci of control. A trivial example: Whereas a German would perceive a powerful fellow human being as standing in his or her way rather, the Kenyan would not bother, according to data and supported by binational discussions. The same is mirrored with qualitative data: When German and Kenyan persons evaluate their feelings, only one-third of the items were perceived in a comparable way. 'Powerful others' is the scale that diverges the most between samples. Germans rate those items mostly as being of negative quality, whereas Kenyans amend a substantial portion of good, mixed, or neutral perceptions. Only 'internality' is congruent between the two cultures. For the Kenyan sample, a third of all items comes with comprehensions not hitting the mark of scale intentions originated in the Western culture. In sum, there is a tendency to mix up internality with social and emotional aspects in Kenya, which is not intended by the I-SEE measure. An explorative factor analysis pursuant to the measure's manual reveals further differences in control composition. Whereas the actual German sample quite well reproduces the expected four-factor structure ('self-concept of ability', 'internality', 'powerful others', 'chance'), the Kenyan sample rather features a two-factor solution of internal and external aspects. This is supported by the fit indices generated with Procrustean target rotation, indicating some similarity between the two cultures but being far from what is expected when two samples are considered to be matchable.

Thus, reducing the internality score by externality distorts the control beliefs' test results of the Kenyan participants. This especially applies to the 'powerful others' scale. Being only one of two externality scales, this is somewhat corrected by the 'chance' factor. Unexpectedly, the cultures' difference in religiosity had a far lesser impact than the domain of being interrelated. The combined global score of the control measure thus could pass in the overall picture, but has to come with a significant blur. A culture that believes "A person [being] a person through other persons" will exercise control beliefs differently than a culture that believes other people to stand for hindrances or instrumentals at the outside. Findings from hypothesis I are thus twofold: First, a deeper and mutual understanding could be established for culture-specific perceptions of control beliefs. In this case, social-relational personality aspects (Fetvadjiev, Meiring, van de Vijver, Nel & Hill, 2015) made a difference in shaping control beliefs of the East-African region, and they did so without following the typical track of collectivism. Second, detailed information could be delivered on the usability of well-established measures for control beliefs. Four independent factors of the FKK/I-SEE scale (Krampen, 1991; Greve, Anderson & Krampen, 2001) worked as a starting point for an investigation of transcultural applicability. Further investigations on psychological control should carefully look at content validity of test items, starting with an emic-etic approach to item comprehension and factorial structure in the cultures involved. In this case, Kenya was thought to be distinct from Germany, when collectivism, religiosity, and interpersonal relations are asked for. For control beliefs, interpersonal relations turn out to make the core aspect. Results accentuate the need for a careful reconstruction of control theory and measures as well, when they are transferred to non-W.E.I.R.D. populations all over the world.

4.2 Hypothesis II: Limited Predictive Value of Control Beliefs for Work-related Outcomes

Hypothesis II expected control beliefs to work as a predictor for typical work-related outcomes such as well-being, occupational achievement motivation and job performance in Germany and Kenya, although in a not completely congruent manner. Multiple regression analyses altogether corroborate this assumption: Several occupational outcomes could be predicted in both cultures without remarkable differences, at least from the perspective of regression modeling. Then again, three out of ten criteria revealed a cross-cultural shift between Germany and Kenya. Control beliefs do correlate with typical outcomes in Kenya as they do in Germany, even if measured with a W.E.I.R.D. instrument such as the FKK/I-SEE (Krampen, 1991; Greve, Anderson & Krampen, 2001). But the mechanism composes differently, depending on belonging to one culture or the other. There is no obvious reason why, for instance, *assertiveness* should relate to control in a comparable way, but not *working under pressure*. The reason for the misfits should be sought in the predictor: A procedure was executed that is prohibited from the stern methodological point of view (Byrne et al., 2009; van de Vijver & Leung, 1997), but nonetheless can be seen all around. Results point out that even if regressions are more or less comparable, the impact of intercultural differences begins at the level of items' content validity.

5 Limitations

We made a first attempt to gather information on culture-specific functioning of control beliefs in the Region of East Africa. The comprehensive and detailed results come with certain limitations, though. A lack of comparable and complementary research impedes to estimate the true significance of what is found: What culture-specific aspects form control beliefs apart from the perspective of universality? More specific, what would a Kenyan person respond to a German personality test and what relevant content would this person be hindered to express while checking boxes? Featuring thousands of ethnic groups and languages, a differentiated data base covering the African continent is still awaited eagerly. So, like a magnifying glass, only a small scope of the field was depicted in detail, while other parts of the larger picture lost attention.

The small convenience samples were collected only around universities in large cities. For now, it may be acceptable to stay constrained to the more or less globalized and educated people (e.g., to avoid for cultural transition side effects). But then, subpopulations without contact to the academic world should definitely be included in future research. Further effort should be put in population-representative sampling, carefully considering demographic diversity in and between the populations. The pursued emic-etic approach proved to be profitable, as hypotheses were shaped and culture-specific item information could be collected and discussed. But also, first hints were given on why an uncritical transfer of established measures to East Africa is precarious (see also Cheung, van de Vijver & Leong, 2011). Further research is to do on the composition of control beliefs in Kenya as well as in Germany, carefully considering culture-specific aspects of control beliefs in a globalized world. What could be a contemporary model of control for the region of East Africa, if the Western comprehension does not fit the context? Besides, is the Western European worldview still the same as it was when the respective measures were developed in the 1990s? And what variance is given within and between different cultural regions all over the world? First approaches come with astounding results, when geographical neighbors are compared (Miczka, 2019; Schmitt, Allik, McCrae & Benet-Martinez, 2007;). The predictive value of control beliefs will have to be rated by using objective or behavioral criteria such as occupational performance, success or real effort in working and learning activities. Then there are interconnections with other psychological variables getting into focus, that have not received much attention until now and that are not reported here (e.g., values, social skills, or social axioms). The embedment of control beliefs in cultural contexts, as well as their relationship with other personality and external variables is a wide and challenging research field, when carried to the transcultural world.

6 Conclusions and future prospects

This study suggests to look behind the scenes of sole predictive value when control beliefs measures are transferred from one culture to another. One reason for culture-specific effects is detected in the factor structure of the applied

questionnaire: Germany and Kenya did not resemble each other sufficiently in this study, according to Procrustean target rotation. From the four distinct factors provided in Germany only two could be recognized in the Kenyan sample (internal and external accentuated). To conclude with simply stating a different factorial structure of control for the Region of Kenya would be insufficient. First, there is reasonable doubt about measurement invariance given (Byrne et al., 2009). Information collected on item comprehension shows, that control items are perceived and understood differently when applied in two cultures. Internal and external aspects rather mix up in the Kenyan perspective. The Westernized perception of the individual's mastery as opposed to the power of fellow human beings is not transferrable to *Ubuntu* culture where a person is deeply interconnected with his or her social, natural and cultural environment. The social-relational domain again is found to be of higher importance here than it is in the Western culture (Fetvadjiev, Meiring, van de Vijver, Nel & Hill, 2015). In an *Ubuntu* culture, control does not follow the Western idea of individual mastery as being separate from fellow human beings. Somewhat surprisingly, neither collectivism nor religiosity turned out to have an impact on the measuring of control beliefs in Kenya. This is either a result of the applied instrument's design (which would be appreciated), or it is a consequence of the Kenyan originality: Ubuntu giving respect to the individual with his or her capability, but at the same time connecting the self with others' selves as well; Ubuntu placing emphasis on the community, but acting out collectivism in a specific manner of Hofstede's dimensions (Hofstede, 2011); Ubuntu valuing religiosity as a social axiom without being committed to some merciful or cruel fate.

To date, further evidence is collected that control beliefs are of universal predictive value for the German-Kenyan collaborations in transcultural research and business contexts. Just as much evidence is discovered for the predictor's culture-specific comprehension and composition. An uncritical transfer of concepts and measures from one culture to another is therefore inappropriate. More research is needed to estimate the amount of inter- and intracultural variance within the concept, carefully considering culture-specific and transcultural functioning. Continuative emic-etic research on control beliefs will have to step up efforts in striving for transcultural invariance of the measures applied if they shall contribute to international business psychology, leadership and management practice (Muchiri, 2011).

List of Abbreviations

AMI: Achievement Motivation Inventory
BIP: Business-focused Inventory of Personality
BIP (German BIP): Bochumer Inventar zur berufsbezogenen Persönlichkeitsbeschreibung
C: Chance (FKK/I-SEE-measure)
CSE: Core self-evaluations
FKK: German Competence- and Control beliefs questionnaire
GDP: Gross domestic product
GSES: General Self-Efficacy Scale
I: Internality (FKK/I-SEE-measure)
I-SEE: English Competence- and Control beliefs questionnaire
LMI (German AMI): Leistungsmotivationsinventar
P: Powerful Others (FKK/I-SEE-measure)
PC: Externality (P+C, FKK/I-SEE-measure)
PCA: principal component analysis
S: Self-Concept of Ability (FKK/I-SEE-measure)
SI: Self-Efficacy (S+I, FKK/I-SEE-measure)
SIPC: Self-Efficacy adjusted for Externality (SI-PC, FKK/I-SEE-measure)
W.E.I.R.D.: Western Educated Industrial Rich Democratic

Ethics Approval and Consent to participate: This study was conducted according to the Declaration of Helsinki principles. An ethics application is submitted to the ethics committee at the University of Koblenz – Landau.

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Appendix

Table A1: Internal Consistency (Cronbach's α) of FKK/I-SEE Scales.

Scale* (items)		Germany	Kenya
S	α	.76	.57
(8)	α**	.79	.68
I	α	.66	.58
(8)	α**	.70	.61
P	α	.68	.68
(8)	α**	.72	.72
C	α	.82	.71
(8)	α**	.82	.72
SI	α	.79	.74
(16)	α**	.81	.78
PC	α	.85	.81
(16)	α**	.86	.81
SIPC	α	.82	.50
(2)			

* S = self-concept of ability
I = internality
P = powerful others
C = chance Krampen, 1991).
**Potential increased reliability if a poor item is omitted.

Table A2: Rotated Factor Matrix FKK (German Sample).

	Factor			
Item No. (Scale*)	1 "Chance"	2 "Self-Concept..."	3 "Internality"	4 "Powerful Others"
13 (C)	.80	-.23	—	.11
7 (C)	.73	-.18	—	.28
9 (C)	.70	-.28	.13	-.12
24 (S)	-.66	.48	—	—
18 (C)	.66	—	-.18	-.14
15 (C)	.64	-.11	—	—
23 (I)	-.63	.10	.56	—
22 (P)	.62	—	.15	.12
31 (C)	.58	.15	-.18	.20
16 (S)	-.49	—	.39	—
2 (C)	.47	.13	—	.29
10 (P)	.47	-.24	.20	.20
5 (I)	-.33	-.20	—	-.29
29 (P)	.33	—	-.17	.14
32 (S)	—	.81	—	—
28 (S)	—	.80	—	.17
4 (S)	.19	.69	—	-.34

Continued **Table A2:** Rotated Factor Matrix FKK (German Sample).

	Factor			
Item No. (Scale*)	**1 "Chance"**	**2 "Self-Concept…"**	**3 "Internality"**	**4 "Powerful Others"**
21 (C)	.26	-.65	-.11	.13
17 (P)	.15	-.63	-.29	.33
12 (S)	-.11	.55	—	-.54
20 (S)	-.41	.50	.40	.27
8 (S)	-.30	.40	-.18	-.18
1 (I)	—	—	.70	.17
25 (I)	-.17	.29	.66	-.19
19 (P)	.28	—	.58	—
27 (I)	-.40	—	.48	.27
30 (I)	-.19	.22	.47	-.41
11 (I)	—	-.30	.44	-.36
14 (P)	.24	-.19	—	.76
3 (P)	.42	-.33	—	.54
26 (P)	—	—	.15	.44
6 (I)	-.31	.17	.33	-.46

Note. Correlations below .10 are not reported.
* S = self-concept of ability
I = internal control orientation
P = powerful others control orientation
C = chance control orientation (Krampen, 1991).

Table A3: Rotated Factor Matrix I-SEE (Kenyan Sample).

	Factor			
Item No. (Scale)	**1 "Internality"**	**2 "Externality"**	**3**	**4**
28 (S)	.76	—	—	-.11
32 (S)	.75	.12	—	-.23
27 (I)	.72	—	—	.17
30 (I)	.68	—	—	—
16 (S)	.66	-.34	.16	.18
25 (I)	.60	—	-.26	—
11 (I)	.54	-.43	.12	—
6 (I)	.43	—	-.20	-.14
23 (I)	.36	-.13	-.21	.15
8 (S)	-.23	-.22	—	-.15
3 (P)	-.16	.65	—	—
14 (P)	-.24	.65	—	.39

Continued **Table A3:** Rotated Factor Matrix I-SEE (Kenyan Sample).

	Factor			
Item No. (Scale)	**1 "Internality"**	**2 "Externality"**	**3**	**4**
22 (P)	—	.58	—	.13
13 (C)	-.17	.57	.25	.34
21 (C)	—	.54	.34	—
10 (P)	.13	.52	.50	—
5 (I)	.23	.44	-.23	—
2 (C)	-.27	.38	.16	.26
24 (S)	—	.16	-.70	—
4 (S)	.22	-.12	-.65	—
7 (C)	—	.15	.61	—
20 (S)	.43	—	-.56	—
12 (S)	.20	-.14	-.55	—
17 (P)	.15	—	.41	.16
26 (P)	—	.15	—	.62
15 (C)	—	—	.19	.60
19 (P)	-.17	.15	—	.60
29 (P)	.19	.16	.15	.60
9 (C)	-.14	.41	—	.47
1 (I)	.29	.31	—	-.46
31 (C)	.11	—	.34	.39
18 (C)	—	.31	.31	.33

Note. Correlations lower than .10 are not reported.
* S = self-concept of ability
I = internal control orientation
P = powerful others control orientation
C = chance control orientation (Greve, Anderson & Krampen, 2001).

Table A4: Stepwise Multiple Linear Regression Analyses for Confounding Variables Predicting SIPC Score.

	Stepwise Regression for *SIPC* in Binational Sample *(F* 2, 114 = 9.81, *P* <.001 adjusted R^2 = .13)				
Predictors	B	SE B	*β*	*t*	Sig.
Constant	64.963	7.567		8.585	.000
Culture*	16.012	4.249	.326	3.769	.000
Job Control*	-13.229	5.889	-.194	-2.246	.027
Gender			-.145	-1.681	.096
Age			.155	1.691	.094
Education			.026	.264	.792

Continued **Table A4:** Stepwise Multiple Linear Regression Analyses for Confounding Variables Predicting SIPC Score.

	Stepwise Regression for *SIPC* in German Sample (*F* 1, 44 = 5.30, *P* =.026 adjusted R^2 = .09)				
Predictors	B	SE B	*β*	*t*	Sig.
Constant	74.685	11.296		6.612	.000
Job Control*	-21.554	9.360	-.328	-2.303	.026
	Stepwise Regression for *SIPC* in Kenyan Sample (*F* 1, 69 = 5.87, *P* =.018 adjusted R^2 = .08)				
Predictors	B	SE B	*β*	*t*	Sig.
Constant	34.410	13.283		2.591	.012
Age*	1.121	.463	.280	2.423	.018

β = standardized regression coefficients, B = unstandardized regression coefficients, SE = standard error, SIPC = I-SEE / FKK global score, Culture = Kenyan/German, Job Control = perceived job controllability.
*Variables included in reduced model.

Table A5: Stepwise Multiple Linear Regression Analyses for SIPC Predicting BIP Job Performance Markers.

	Stepwise Regression for *Assertiveness* in Binational Sample (*F* 1, 115 = 25.75, *P* <.001 adjusted R^2 = .18)				
Predictors	B	SE B	*β*	*t*	Sig.
Constant	2.838	.288		9.851	.000
SIPC	.023	.004	.428	5.075	.000
	Stepwise Regression for *Emotional Stability* in Binational Sample (*F* 1, 115 = 16.72, *P* <.001 adjusted R^2 = .12)				
Predictors	B	SE B	*β*	*t*	Sig.
Constant	2.736	.335		8.168	.000
SIPC	.021	.005	.356	4.089	.000
	Stepwise Regression for *Leadership Motivation* in Binational Sample (*F* 1, 115 = 34.73, *P* <.001 adjusted R^2 = .23)				
Predictors	B	SE B	*β*	*t*	Sig.
Constant	2.480	.308		8.063	.000
SIPC	.028	.005	.482	5.894	.000
	Stepwise Regression for *Power Motivation* in Binational Sample (*F* 1, 115 = 8.16, *P* =.004 adjusted R^2 = .06)				
Predictors	B	SE B	*β*	*t*	Sig.
Constant	3.252	.307		10.589	.000
SIPC	.014	.005	.264	2.934	.004
	Stepwise Regression for *Action Orientation* in Binational Sample (*F* 1, 115 = 18.30, *P* <.001 adjusted R^2 = .13)				
Predictors	B	SE B	*β*	*t*	Sig.
Constant	3.009	.314		9.573	.000
SIPC	.021	.005	.371	4.278	.000
	Stepwise Regression f. *Working Under Pressure* in German Sample (*F* 1, 44 = 13.65, *P* <.001 adjusted R^2 = .22)				
Predictors	B	SE B	*β*	*t*	Sig.
Constant	4.843	.425		11.407	.000
SIPC	-.028	.008	-.487	-3.694	.001

Continued **Table A5:** Stepwise Multiple Linear Regression Analyses for SIPC Predicting BIP Job Performance Markers.

	Stepwise Regression for *Flexibility* in Kenyan Sample *(F* 1, 69 = 4.51, *P* =.037 adjusted R^2 = .05)				
Predictors	B	SE B	*β*	*t*	Sig.
Constant	2.732	.628		4.348	.000
SIPC	.019	.009	.248	2.125	.037
	Stepwise Regression for *Self-Confidence* in Binational Sample *(F* 2, 114 = 19.93, *P* <.001 adjusted R^2 = .25)				
Predictors	B	SE B	*β*	*t*	Sig.
Constant	2.849	.273		10.448	.000
SIPC	.022	.004	.422	4.946	.000
Culture	.450	.217	.177	2.072	.041
	Stepwise Regression for *Self-Confidence* in German Sample *(F* 1, 44 = 18.10, *P* <.001 adjusted R^2 = .28)				
Predictors	B	SE B	*β*	*t*	Sig.
Constant	2.598	.348		7.462	.000
SIPC	.027	.006	.540	4.255	.000
	Stepwise Regression for *Self-Confidence* in Kenyan Sample *(F* 1, 69 = 9.18, *P* =.003 adjusted R^2 = .11)				
Predictors	B	SE B	*β*	*t*	Sig.
Constant	3.527	.422		8.365	.000
SIPC	.018	.006	.343	3.030	.003

β = standardized regression coefficients, B = unstandardized regression coefficients, SE = standard error, SIPC = I-SEE / FKK global score, BIP = Business-focused Inventory of Personality.