



Components of Emotional Meaning: A sourcebook

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CHAPTER

32 Adaptation of the GRID instrument in Setswana

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Abstract

This chapter explores how the application of the GRID instrument in black South-African samples was problematic. It generated data with very low reliabilities and a difficult to interpret structure. Through a process of focus groups and pilot studies, adaptations were made to the GRID instrument in terms of instructions and especially in terms of the response scale for the Setswana language group. The adapted instrument was applied in a Setswana student sample. Although still less reliable than most GRID data, the VALENCE dimension could be reliably identified, and to some extent also the POWER dimension.

Keywords: Setswana, response scale, instrument adaptation

Subject: Developmental Psychology, Social Psychology

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This chapter reports on the adaptation of the short GRID into Setswana. Setswana, spoken by black native communities in the North-West Province of South Africa, required this adaptation because previous applications of the GRID in three other African languages had been unsuccessful. An application of a paper-and-pencil version of the GRID instrument among Tshivenda- and Xitsonga-speaking samples revealed very low inter-rater reliability to a degree such that the data could not be used for further analyses². In a third Sepedi-speaking sample the inter-rater reliability was better, but still moderate, and a two-dimensional structure could be interpreted, with the dimensions VALENCE and POWER structuring the domain (Rauch, 2009).

The Tswana group of people in South Africa are ethno-culturally related to the inhabitants of Botswana, a neighboring country of South Africa. Under the apartheid regime, a separate homeland was created for the Tswana people, namely Bophuthatswana, meaning *The Gathering of the Tswana*. After the abolishment of apartheid, the region was reintegrated into a newly-formed province, today known as the North-West Province. In that province the Tswana group is the dominant cultural group. 3,677,010 Tswanas live currently in the North-western region of South Africa. Setswana, the language spoken by the Tswana, is one of the 11 official languages in South Africa.

Only recently interest has emerged in constructing reliable and valid psychological assessment instruments in the black African languages (Meiring, 2007). This interest is stimulated by new legal requirements since the abolishment of apartheid. The Employment Equity Act—a subdivision of the Labour Act of South Africa—requires psychological measurements for use in clinical and work settings to be reliable, valid, and free from bias (Government Gazette, 1998). In this sense, very little work has been done in the affective domain. Only a recent study of Wissing et al. (2010) aimed at validating a general well-being scale in Setswana. As part of the well-being measures used in the study, the Affectometer-2 (Kamman & Flett, 1983) measured affective well-being as a two-factorial structure of positive and negative affectivity.

The current chapter reports on an attempt to adapt the GRID instrument for use with Setswana-speaking participants.

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32.1 Method

Adapting the GRID instrument to Setswana

A shortened version of the original GRID instrument with 61 items (a precursor of the CoreGrid presented in Chapter 44) was taken as a starting point for the adaptation of the instrument.

A series of pilot studies were conducted over a period of six months. After each pilot study, suggestions for improvement were made and the questionnaire was adapted accordingly. Several difficulties were observed. Participants in the pilot studies experienced the questionnaire as a highly technical instrument. It was also difficult for them not to rate their own emotion experiences, but to make a judgment of people in their culture based on the meaning of the words. Additionally, they found it tiresome to rate four emotions on each emotion feature and found the method very complex to comprehend. Many participants requested the English translation for the words, as they reported that Setswana emotion terms are often context-bound. They, therefore, requested that the emotion terms be stated in a given situation or scenario. A clear description of each emotion term was also requested by many participants. The reason for this, one participant stated, was that one Setswana emotion term can refer to different English emotion terms. For example, English emotion terms such as *happiness*, *joy*, and *elation* are translated with only one Setswana emotion term, namely *boitumelo*. Participants noted that the instructions were too long and after reading them they were still confused as to how to proceed. They found the rating scale (a Likert-type scale from 1 to 9) very difficult to interpret. They questioned the omitted descriptive anchors, since only 1 (extremely unlikely), 5 (neither likely nor unlikely), and 9 (extremely likely) were labeled. There was also no clear translation in Setswana for “neither likely nor unlikely.”

The English version of the short GRID instrument was first translated into Setswana by the Setswana-speaking researcher who was part of this research team. The translated Setswana version was then checked for correctness and quality of translation by another Setswana native speaker, a lecturer at a higher education institution in the North-West Province. Yet another Setswana translator translated the version back into English to detect possible inconsistencies when compared with the original English version. Changes were also made according to the comments of the participants regarding the translation of words. The pilot studies involved Setswana-speaking students who majored in Setswana as a first language. A group of Setswana-speaking educators also made comments that led to the adjustment of certain words.

One of the translation issues was the wording of the different emotion components in the short GRID. No direct translation for the five emotion components exists in Setswana. After consultation with a variety of language experts and native language speakers, the conclusion was made that the translation of the components worked better as descriptions of the content of the specific emotion component. For example, the component Bodily

reaction was changed into a description of words—directly translated from Setswana as: “. . . *changes that you feel inside your body when you experience this emotion.*” Participants also responded better to a five-point rating scale that ranged from 1 (completely disagree) to 5 (completely agree). Better results regarding the administration of the questionnaire were also found when instructions for each section were given verbally in Setswana.

In conclusion, the questionnaire was adapted with regard to instructions, rating scale, and descriptions of the emotion.

Participants

All of the participants (n = 122) were Setswana-speaking and their ethnicity was black. 47% of the participants were males. The average age of the participants was 22.7 years. All of the participants were enrolled at university. Students came from all majors at university. Students from the Faculty of Commerce and Administration were the most represented (24.6%). The place of birth of the largest group of participants was Mafikeng (capital city of the North-West Province) (49.6%). The largest part of the sample (97.4%) resided in the North-West Province during the time of the research study. The participants enrolled in the study on a voluntary basis.

32.2 Results

The inter-rater reliability of the sample was measured first (see Table 32.1). Each term was rated on average by 14.63 participants and the Cronbach's alpha ranged from 0.17 to 0.86, with an average of 0.64 when all participants were taken into account. With only the converging participants, whose feature profile correlated at least 0.20 with the average feature profile of the other participants that rated the same emotion term, the Cronbach's alpha ranged from 0.64 to 0.96, with an average of 0.78. While each term was rated on average by 14.63 participants, only 9.25 participants converged on the meaning of each emotion term (see Table 32.1). Thus, with only the converging participants, the reliability was moderate, and much lower than in most of the other samples in the GRID study (see Chapter 6).

Table 32.1 Interrater reliability (Cronbach's alpha) and number of participants with all (A) and with only converging (C) participants

Emotion words	<i>Alpha</i> _A	<i>N</i> _A	<i>Alpha</i> _C	<i>N</i> _C
joy	0.76	14	0.79	12
fear	0.45	12	0.66	4
jealousy	0.54	13	0.65	8
despair	0.66	17	0.72	12
love	0.76	16	0.84	12
disappointment	0.55	14	0.70	8
compassion	0.81	14	0.85	10
disgust	0.70	17	0.82	10
guilt	0.63	15	0.71	11
surprise	0.57	11	0.67	7
anger	0.73	13	0.79	10
interest	0.64	17	0.74	8
happiness	0.82	16	0.86	14
contempt	0.69	14	0.79	9
being hurt	0.86	14	0.90	11
irritation	0.76	17	0.82	13
anxiety	0.60	13	0.69	7
pleasure	0.17	13	0.72	3
stress	0.26	13	0.64	3
pride	0.68	17	0.76	9
contentment	0.84	16	0.86	14
shame	0.27	14	0.86	4
sadness	0.77	14	0.96	7
hate	0.86	17	0.87	16

Note: *Alpha*_A: Cronbach's alpha across all participants; *N*_A: Number of participants per emotion word; *Alpha*_C: Cronbach's alpha with only converging participants (participant-rest correlation ≥ 0.20), *N*_C: Number of converging participants.

A factor analysis (Principal Component Analysis) was executed on the mean centered feature scores per emotion term (computed on the basis of only the converging participants, as has also been done in Parts II and

III of this book). Only the first dimension could be well interpreted as a VALENCE dimension, on which positive emotion terms were opposed to negative emotion terms (see Figure 32.1). The first dimension accounted for 16.96% of the total variance. The second dimension, which could be best interpreted without rotation, shared characteristics with the POWER dimension identified by the standard GRID instrument (see Chapter 7). The second factor accounted for an additional 8.71% of the total variance. The negative pole of this factor was characterized by low POWER features (such as “tears” and “wanting to make up for what one has done”) (see Table 32.2). On this factor especially the emotion terms *sadness*, *shame*, and to some extent *fear*, were differentiated from the other emotion terms (see Figure 32.1). Higher dimensional interpretations were not at all interpretable.

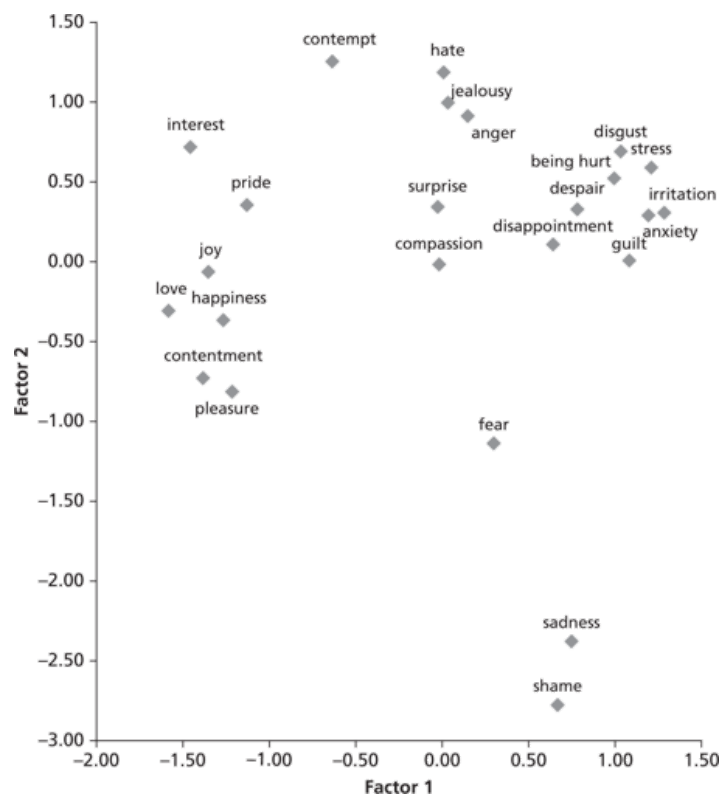


Figure 32.1 Plot of the factor scores for the 24 emotion words on FACTOR 1 and FACTOR 2.

Table 32.2 Loadings of the 61 GRID features in a two-factorial structure

GRID features	F1	F2
felt weak	0.68	0.31
felt tired	0.67	−0.56
felt bad	0.66	−0.09
felt weak limbs	0.60	−0.40
did not want to do anything	0.58	0.06
wanted to disappear or hide from others	0.56	−0.11
felt restless	0.52	0.40
had threatening consequences	0.51	0.29
wanted to do damage, hit, harm, or say something that hurts	0.48	0.16
felt quiet	0.46	0.14
felt their heartbeat getting faster	0.28	−0.11
produced speech disturbances	0.18	0.17
had consequences the person had sufficient POWER to change or control	0.17	0.07
experienced an intense emotional state	0.10	−0.03
lacked the motivation to pay attention to what was going on	−0.20	−0.14
wanted to show off	−0.29	0.03
had the eye brows go up	−0.32	0.17
felt awake	−0.45	0.12
of which the consequences were likely to be positive, desirable for somebody else	−0.45	0.36
showed the emotion to other less than s/he felt it	−0.49	0.28
wanted to be tender and kind	−0.49	−0.13
had consequences a person could live with	−0.51	−0.18
wanted to be seen, to be in the center of attention	−0.51	−0.27
felt strong	−0.52	0.13
wanted to engage in action	−0.54	−0.24
spoke in a firm, forceful voice	−0.62	−0.16
spoke louder	−0.68	0.01
felt good	−0.73	−0.47
smiled	−0.84	−0.04
wanted to destroy whatever was close	0.21	0.79

tried to control the intensity of the emotional feeling	-0.23	0.62
felt hot (puff of heat, cheeks or chest)	-0.08	0.56
wanted someone to be there to provide help or support	-0.08	0.49
involved behavior which was unjust	-0.15	0.47
involved suffering a serious loss	0.15	0.46
spoke in a trembling voice	0.31	0.46
frowned	0.23	0.43
felt cold	0.29	0.42
felt an urge to be active, to do something, anything	-0.35	0.38
that involved behavior which violated laws or socially accepted norms	0.11	0.34
of which the consequences were likely to be negative, undesirable for the person him/herself	-0.27	0.33
sweated	0.18	0.29
experienced the emotion for a long time	0.06	0.29
that was totally (essentially) unpredictable	0.20	0.27
that was caused by the person's own behavior	-0.19	0.21
that was caused by somebody else's behavior	-0.10	0.17
wanted to flee	0.13	0.16
felt their breathing slowing down	0.15	0.16
wanted to make up for what they has done	-0.20	-0.39
had the jaw drop	0.40	-0.41
felt active	-0.27	-0.43
that occurred suddenly	0.45	-0.45
spoke faster	0.35	-0.47
spoke more slower	0.26	-0.49
had stomach troubles	0.45	-0.53
closed their eyes	0.51	-0.54
had tears in the eye	0.35	-0.57
felt their muscles relaxing (whole body)	0.37	-0.58
that was pleasant for people (independently of its possible consequences)	-0.32	-0.64
felt calm	-0.18	-0.68
wanted to be near or close to people or things	-0.54	-0.70

32.3

↳

Discussion

Despite an extensive adaptation process, the modified GRID instrument did not give a very clear representation of the meaning structure of emotion terms in Setswana. Only a single VALENCE factor opposing positive to negative emotion terms could be interpreted well. It is not clear whether this deviating structure points to a cultural and linguistic specificity in the meaning structure of emotion terms in Setswana. A more likely alternative explanation is methodological: the four dimensional structure identified for the rest of the samples could not be replicated because the Setswana participants agreed only moderately on the meaning of the emotion terms.

p. 461 One possible reason for this lack of inter-rater agreement is the lack of standardization of spoken Setswana. Although a standard version of the language exists and is taught at primary school, many different dialects are used in daily language. Differences between the dialects may have caused differences in the meaning of individual emotion terms and of the emotion features on which they were rated. Additionally, despite the adaptation of the instructions and the rating scale, other methodological factors might still have caused problems in the current version of the instrument: especially the format of the instrument, whereby decontextualized emotion terms had to be rated, constitutes a possible source of unreliability.

The results clearly indicate that an assessment instrument that works well in very diverse countries, such as the USA, Russia, and China, need not be universally applicable. These findings underline the necessity to adapt Western measuring instruments for use in other cultural groups in South Africa (Foxcroft, 1997). The present study calls for a further in-depth investigation of how method factors affect the interrater reliability of the meaning profiles of emotion terms in Setswana. Only when reliable meaning profiles can be identified, the question of possible cultural and linguistic differences in the meaning structure of the emotion domain can be properly addressed.

Notes

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- 2 Because there were serious doubts about the motivation of the participants in these two samples, the samples were excluded from the GRID database reported in this volume.