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Congruence of Life Goals and Implicit Motives as Predictors of Life Satisfaction: Cross-Cultural Implications of a Study of Zambian Male Adolescents[1]

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This paper examines the relationship between implicit motives, explicit life goals, and life satisfaction in a Zambian sample of male adolescents. A questionnaire assessing life goals (K. Pöhlmann & J. C. Brunstein, 1997), the Satisfaction With Life Scale (E. Diener, R. A. Emmons, R. J. Larsen, & S. Griffin, 1985), and a TAT-type picture-story-test were administered to 120 Gwembe Tonga adolescents in Zambia. The stories were coded according to a scoring system developed by D. G. Winter (1991). Based on motives associated with the domains achievement and affiliation-intimacy, the results revealed that congruence between implicit motives and self-attributed goals is associated with an enhanced satisfaction with life. This pattern does not appear to hold true for motives associated with the domain of power.

KEY WORDS: life goals; implicit motives; motive-goal congruence; life satisfaction; adolescence; Zambia.

The idea that the pursuit of one's conscious goals is associated with emotional well-being is well established (e.g., Brunstein, 1993; Diener, 1984; Emmons, 1996). A number of studies, however, indicate that congruence between an individual's implicit motives and goals is associated with a greater subjective well-being (e.g.,

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Brunstein, Schultheiss, & Grässmann, 1998). This paper examines the relationship between conscious long-term goals, implicit social motives, and an individuals' satisfaction with life in a non-Western cultural context. Most of the research on personal goals and implicit motives, and how they correlate has been based on the evaluation of European American samples in Western cultural settings. To assess the universal validity of psychological theories and assumptions developed in Western cultures, it is necessary to study their applicability to non-Western cultures (Greenfield, 1997; van de Vijver & Leung, 1997). From a comparative cross-cultural perspective, this Zambian study is especially significant because there has been very little research on African societies.

THE IMPLICIT AND EXPLICIT MOTIVATIONAL SYSTEMS

Research on human motivation provides a substantial body of knowledge supporting the assumption that there are two separate motivational systems that are relatively independent of one another (McClelland, Koestner, & Weinberger, 1989). The implicit system of motives is shaped by emotional experiences in early, prelingual childhood. In contrast, the cognitive system of self-attributed motives including conscious goals and values is more dependent on the representational capacities acquired during the development of language-mediated cognitive structures (e.g., self-concept; cf. Weinberger & McClelland, 1990). In other words, the development of explicit personal goals is temporally distinct from the development of implicit motives. Furthermore, Brunstein, Maier, and Schultheiss (1999; see also Brandtstädter, 1998) suggest that one's explicit long-term goals do not begin to emerge until the onset of adolescence. Like other explicit motives, long-term goals are defined as conscious entities (Emmons & Kaiser, 1996) that are best assessed with direct first-hand questionnaires because people are aware of, or better able to consciously reflect on their motivations, attributions, and attentional processes (Biernat, 1989; McClelland et al., 1989). By comparison, implicit motives are nonconscious and, therefore, introspectively less accessible (Biernat, 1989). Accordingly, implicit motives are best measured by fantasy-based methods. One method that has been routinely used to evaluate implicit motives (e.g., Atkinson & Litwin, 1960; McAdams & Vaillant, 1982; McClelland & Pilon, 1983; Winter, 1973) is the Thematic Apperception Test (TAT) developed by Murray (1943).

By the 1950s deCharms, Morrison, Reitman, and McClelland (1955) had argued that future research efforts should distinguish implicit from self-attributed motives because they are not developmentally related and seem to be linked to different behaviors. According to McClelland (1980), implicit motives have long-term effects on "operant," spontaneous behavioral trends over time (McAdams & Vaillant, 1982; McClelland & Pilon, 1983). In contrast, self-attributed motives elicit specific responses to particular situations in which people cognitively decide on a course of action (Ajzen & Fishbein, 1970; Patten & White, 1977). The ability

to consciously generate goals independent of emotionally driven preferences increases the individual's capacity to adapt to dynamic sociocultural environments, critical life events, and developmental tasks associated with particular stages in life. Both systems of motivation are effective in generating behavior and directing it toward the pursuit of specific goals (e.g., Cantor, 1994; McClelland, 1987).

The existence of two orthogonal systems of human motivation is also supported by empirically founded multicoding theories of information processing (e.g., Bucci, 1985; Epstein, 1994; Reber, 1993). For example, Epstein (1994) differentiates between a rational system and an emotionally driven experiential system. Similarly, Bucci's psychoanalytic theory (Bucci, 1997) distinguishes between verbal and nonverbal modes of information processing. She assumes that neither mode is superior and that an individual's effective adjustment requires the integration of both systems. Schultheiss (2001) suggests that implicit motives and explicit goals relate to different kinds of information processing. Implicit motives are considered to be part of the experiential system that is primarily driven by an individual's emotional needs. In contrast, explicit goals are associated with the verbal-symbolic system that has evolved to represent the needs of the social group.

When studying human motivation, it is necessary to consider both systems to better understand individual behavior and action (Sorrentino & Higgins, 1986; Winter, 1996). Results from French and Lesser (1964; McClelland, 1981) indicate that explicit motives (e.g., values, goals, and interests) have to be considered to identify the behavioral correlates of implicit motives. On the one hand, studies dealing with the relationship of implicit and explicit motives in European American samples have generally found that implicit (operant) and explicit (respondent) measures of the same motivational disposition are not significantly correlated with one another (e.g., King, 1995; McClelland, Atkinson, Clark, & Lowell, 1953). On the other hand, Emmons and McAdams (1991) found that idiographic, self-generated strivings did relate to corresponding implicit motives measured by the TAT. When self-attributed motivation is measured idiographically, that is, in a way that gives participants more freedom to identify their conscious concerns, it may reveal a link between implicit and self-attributed motives.

GOALS, MOTIVES, AND SUBJECTIVE WELL-BEING

Striving for personal goals assigns meaning, structure, and direction to an individual's life (Bühler & Massarik, 1968; Klinger, 1977). There is significant evidence that personal involvement in the pursuit of important goals and progress toward highly valued goals are positively related to one's subjective well-being and mental health (e.g., Emmons, 1996; Gollwitzer & Moskowitz, 1996). There is, however, also considerable evidence documenting the link between the emergence of negative mood states and the inability to successfully pursue significant goals (e.g., Klinger, 1977; Martin & Tesser, 1989). Furthermore, explicit goals and

implicit motives are not always compatible. Individuals may pursue goals that do not have corresponding implicit motives. Also, the realization of a particular explicit goal may be at odds with the satisfaction of an implicit motive. A strong commitment to explicit personal goals that overrides one's nonconscious motivational orientation may inhibit the satisfaction of implicit motives and ultimately result in emotional distress (Winter, 1996). Brunstein et al. (1999) suggest that if congruence between an individual's implicit motives and conscious goals is achieved, it will occur during the course of individual development; this is not something that is preprogrammed ontogenetically. Recent research by Brunstein and colleagues on German study subjects (Brunstein, Lautenschlager, Nawroth, Pöhlmann, & Schultheiss, 1995; Brunstein et al., 1998; see also Zalewska & Brandtstädter, 2001) shows that a correspondence between implicit and explicit motivational systems is correlated with an increase in one's emotional well-being. Brunstein, Schultheiss, and Maier (1999), therefore, submit that positive well-being is most successfully achieved by individuals pursuing personal goals that become aligned with the satisfaction of implicit motives.

LIFE SATISFACTION: A COMPONENT OF SUBJECTIVE WELL-BEING

Previous research efforts have identified three components of subjective well-being: positive affect, negative affect, and life satisfaction (Diener, Emmons, Larsen, & Griffin, 1985; Emmons & Diener, 1985). Positive and negative affects are components based on emotions (i.e., how a person usually feels; Zalewska & Brandtstädter, 2001), whereas life satisfaction is a component based on cognitive judgments (how a person perceives the pursuit or achievement of personal needs and aspirations). With these distinctions in mind, well-being can be evaluated by asking individuals about their life in general, or by asking them about their satisfaction with particular aspects such as their family or job. From a general perspective, subjective well-being has often been shown to correlate with variables such as education and age (Diener, Suh, & Oishi, 1997). Evidence suggests that life satisfaction as a part of subjective well-being is likely to reflect the fulfillment of personal values and goals, and is involved in the search for meaningfulness in one's life (Diener et al., 1997). Accordingly, Emmons (1986) demonstrated a positive relationship between a person's satisfaction with life, and the importance and successful pursuit of personal strivings. In line with these findings, we suggest that congruence between life goals and implicit motives is not only related to emotional well-being, but is also associated with the cognitive-judgmental component of subjective well-being.

In summary, on the basis of previous research, we propose that the life goals of our study subjects (respondent measurements) may be weakly correlated with the implicit motives (operant measurements) associated with a given motivational

domain. It is also assumed that the importance of their goals will positively relate to their perceived satisfaction with life. Furthermore, we expect that individuals with congruence between their explicit life goals and implicit motives will report higher levels of life satisfaction. Individuals pursuing goals with corresponding implicit motives will be able to satisfy implicit needs more easily. Variables such as age and education will also be considered since research has shown that they are related to an individual's satisfaction with life.

METHOD

Sample

Cultural Background

The present data are part of a study examining the developmental processes resulting from conflict between social and cultural changes affecting ethnic Gwembe Tonga adolescents in Zambia during their transition to adulthood (Hofer, 2000). The Tonga represent approximately 15% of Zambia's total population (Central Statistical Office, 1996), and they consist of three distinct groups: the Plateau, the Gwembe, and the Ila (Bantu Botatwe—the three people; Colson, 1996). The work of E. Colson and colleagues (e.g., Colson, 1960, 1971; Colson & Scudder, 1981, 1988; Scudder & Colson, 1980) has provided considerable detail about Tonga history and culture in Zambia. For the Gwembe Tonga, traditional rituals and orientations still play a prominent role in life particularly among the older people (Luig, 1997). They still believe in a close ideological link to the world of their ancestors. Collectivistic cultural orientations, such as a strong sense of community (see Colson, 1971), continue to uphold traditional social structures by reinforcing an enduring bond between the individual and community (Erdheim, 1994). Community-based solidarity is expressed by an emphasis on the rituals of fellowship and unity associated with the Gwembe Tonga cult of the ancestors. Also, conjointly organized ceremonies, like rain petitions, strengthen an individual's ties to the community. Above all, a strong feeling of community affiliation is maintained by the importance placed on one's kinship ties and clan membership. Despite the social and cultural changes in Zambia that affect the life of local communities, Gwembe Tonga adolescents still appear to embrace the traditional cultural orientations (e.g., significance of kinship ties) and values taught by their parents and other older members of the society (Hofer, 2000).

Participants

The total study sample consisted of 301 male adolescents recruited in local schools and with the help of local contacts. Adequate information on the

self-attributed motives (life goals; $N = 250$) and level of life satisfaction ($N = 295$) was provided by most of the study participants. The results presented here, however, are based only on the data collected from the 120 participants who also took a TAT-type picture-story test to measure their implicit motives. Although 144 adolescents originally took the TAT, 24 of them did not provide sufficient information for the analysis. The stories of 5 adolescents could not be translated because they used multiple languages to transcribe their stories; the stories of 18 adolescents were not of sufficient length for the TAT (30 words per story; Smith, Feld, & Franz, 1992); finally, 1 adolescent was excluded because there was insufficient data on his life goals.

The study participants ranged in age from 12 to 21 years at the time these data were collected ($M = 16.62$; $SD = 1.65$). Most of them ($N = 108$; 90%) ranged between 14 and 18 years. Many study participants ($N = 105$) lived in the rural Sinazongwe district (an area traditionally settled by the Gwembe Tonga). A small minority ($N = 15$) resided in the Zambian capital city of Lusaka. Among the study participants, 43 attended a secondary school (35.8%; high level of education) and 77 attended a primary or basic school (64.2%; low level of education).

Measurements

Explicit Life Goals

To collect data on the explicit motives (life goals) of the Zambian adolescents, participants completed the life-goal questionnaire GOALS (Pöhlmann & Brunstein, 1997). GOALS was administered to the Zambian study participants in a bilingual format (English and Chitonga) to prevent difficulties with questionnaire comprehension. Zambian colleagues who are ethnic Tongas did the translations and retranslations of the questionnaires.

GOALS consists of 24 items that evaluate life goals relating to six categories including intimacy (e.g., have a close relationship), affiliation (e.g., spend a lot of time with other people), altruism (e.g., act unselfishly), power (e.g., have a high social status), achievement (e.g., improve my education continuously), and variation (e.g., live a life of adventure). Life goals are regarded as higher order phenomena because they embody one's perceptual orientation of his or her life at a relatively abstract level.

The items pertaining to life goals were evaluated according to a 5-point rating scale designed to determine the importance of a goal (1 = *not important* to 5 = *very important*).[4] The importance of a goal is estimated according to its relevance to an individual's long-term, or lifetime orientation.

[4]Data on the attainability of (1 = *very difficult to attain* to 5 = *very easy to attain*) and the success in realizing a goal (1 = *not successful* to 5 = *very successful*) are not reported in this paper.

Theoretically, three of the goal categories (intimacy, affiliation, and altruism) form a more encompassing group referred to as the field of Communion. The other three goals (achievement, power, and variation) form a group referred to as the field of Agency. Communion is defined as the group of community-oriented human endeavors that primarily focus on acquiring or maintaining social relations. In contrast, efficacy-oriented life goals (agency) primarily emphasize the individual's striving to have an effect ("to be effective") or have an impact on his or her material and social environment (Pöhlmann & Brunstein, 1997; see also White, 1959). The analyses of explicit and implicit motives, and their association with life satisfaction will only involve the life goal categories of achievement, intimacy, and power because they compare most directly to the implicit motives *n* Achievement, *n* Affiliation, and *n* Power, respectively.

Life Satisfaction

The Satisfaction With Life Scale (SWLS; Diener et al., 1985) is composed of five items used to measure one's global satisfaction with life. Each item is rated on a 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*). The results of the five items are summed to produce an overall score. The SWLS reflects the cognitive components of one's satisfaction with life and is well suited for use with different age groups (Myers & Diener, 1995). The scale has been widely applied to measure the life satisfaction of adolescents (e.g., Neto, 1993, 2001; Phinney & Ong, 2002). It was administered to the Zambian study participants in a bilingual format.

Implicit Motives

A total of 30 pictures were used to pretest the implicit motives of 63 Zambian adolescents (De Ridder, 1961; Kornadt & Voigt, 1970; Lee, 1953; Smith, 1992). Accordingly, five picture cues that formed a proper and balanced picture set (e.g., stimulus pull of the picture cues) were selected for collecting data on the motives of achievement, power, and affiliation-intimacy (Hofer & Chasiotis, 2002). The five pictures were shown to each study participant in the following order: ship captain, an architect at a desk, a couple by a river, women in a lab, and trapeze artists (pictures taken from Smith, 1992). The TAT was administered in a group setting in which the first author and a Zambian coworker instructed the study participants according to the guidelines set forth by Smith et al. (1992); group size ranged from 4 to 38 individuals ($M = 29.13$; $SD = 12.89$). Picture cues were presented for 30 s after which the participants were given 5 min to compose a story for each picture. Primary school students were given an extra minute to write their stories to compensate for their generally lower level of penmanship. Most of the adolescents ($N = 93$) composed their TAT stories in English; however, 21 of them composed in Chitonga, and 6 of them used both English and Chitonga.

According to a scoring system developed by Winter (1991), the content of the stories composed by the study participants was coded for the achievement motive (*n* Achievement), the power motive (*n* Power), and the affiliation-intimacy motive (*n* Affiliation-Intimacy) that they reflected. The achievement motive is defined as enhancing one's performance or surpassing standards of excellence (McClelland, 1987). Winter (1991) suggests that standards of excellence are usually expressed in one's written use of adjectives or descriptions that positively evaluate their performance and/or successful realization of goals. Other indicators of *n* Achievement are the admission of successful competition with, or victory over others, descriptions of unique accomplishments, and the acknowledgment of a fear of failure.

The power motive is defined as one's desire to influence or have an absolute affect on the behavior or emotions of other people (Winter, 1973). This motive is coded for responses indicating the impact, control, or influence that a person or social institution has on another person, group, or the world at large (e.g., the forceful determination of behavior, the provisioning of advice, or impressive displays; see Winter, 1991).

Winter's system (Winter, 1991) combines *n* Affiliation and *n* Intimacy into a single image category because of the theoretical and empirical overlap exhibited by these constructs. In the following text, the short-term *n* Affiliation will be used to refer to the implicit affiliation-intimacy motive. This combined motive represents both a concern for warm, close relations with others, and a concern for establishing, maintaining, or restoring a positive affective relationship with another person or group of people (Heyns, Veroff, & Atkinson, 1958; McAdams, 1992). It is coded for any responses indicating the establishment, maintenance, or restoration of friendly relationships expressed by positive feelings toward others, regret about the disruption of a relationship, activities of affiliation, or friendly nurturing acts.

Two trained assistants independently coded each of the stories. They achieved percentage agreements of 85% or better in their responses to training material prescored by experts (Winter, 1991). For the Zambian data, the interrater reliability was .83 for *n* Achievement, .89 for *n* Power, and .94 for *n* Affiliation. Scoring disagreements were resolved by discussions between the primary author and each assistant to determine the subject's final score.

Among the study sample, the number of words for the five picture-cue stories ranged from 151 to 715 ($M = 256.68$; $SD = 91.60$). The scores for the strength of the three motives are expressed as motive images per 1,000 words because of significant correlations between protocol length and the number of motive images, $r = .51$ for *n* Achievement, $r = .49$ for *n* Affiliation, and $r = .61$ for *n* Power (Winter, 1991). The size of the group during data collection had no effect on the strength of the three implicit motives.

RESULTS

The results are discussed in three sections. The first section will review the appropriateness of the six life goal categories (six-factor model) and the measurements of Zambian adolescent life satisfaction. The second section summarizes the general statistics and correlations between the explicit and implicit motives. The final section will present the linear regression analyses used to explore the core issue of this paper, the relationship of motive congruence and one's level of satisfaction with life.

Measurement of Life Goals and Life Satisfaction in the Zambian Sample

Life Goals

Confirmatory factor analysis (CFA) using AMOS 4.01 (Arbuckle, 1999) was conducted to examine whether the six life goal categories that have been successfully used to analyze a sample of German students (Hofer, 2000) were also appropriate for evaluating the Zambian adolescent sample. This test used data on the importance of life goals obtained from 250 of the Zambian adolescents. According to Campbell, Gillaspy, and Thompson (1995), the appropriateness of a model should be evaluated from the perspective of multiple fit statistics.

The results of the CFA shown in Table I indicate that the six-factor model is a good fit for the Zambian data set. The ratio χ^2/*degrees of freedom* does not approach the critical value ($\geq$2). Both the CFI (Comparative Fit Index) and the NFI (Normed Fit Index) are close to 1.00 and the RMSEA (Root Mean Square Error of Approximation) falls below .05. Finally, the ECVI (Expected Cross Validation Index) and the AIC (Akaikens Information Criterion) of the default model lie below their corresponding parameters for the saturated model. The factor loadings for the goal categories of achievement, intimacy, and power are shown in Table II.[5]

For the sample directly relevant to this study ($N = 120$), the internal consistency (Cronbach's alpha) of the goal categories used in further analyses is .60 for achievement and .41 for intimacy. The item *exert influence* used to evaluate the life goal category of power was dropped from the analysis to improve the internal consistency of the measure. Accordingly, Cronbach's alpha for this category was increased to .44.[6]

[5]The factor loadings for the three goal categories which are not used in further analyses range from .24 to .47 for Affiliation, .10 to .54 for Altruism, and .06 to .46 for Variation.

[6]Repeated analyses with data gained from subgroups within the sample (e.g., from secondary school students, adolescents 16 years and older) showed similar results indicating that neither one's level of education nor age influences reliability.

Table I. Confirmatory Factor Analysis: Fit Indices of Six-Factor Model for Zambian Data on Life Goals ($N = 250$)

χ^2 (p-level)	df	χ^2/df	CFI, NFI	RMSEA	AIC (saturated)	ECVI (saturated)
361.06 (.00)	237	1.52	.99, .97	.04	535.06 (648.00)	2.14 (2.60)

Despite the moderate to low internal consistency of the evaluation scales, the measurements exhibit satisfying retest reliabilities. Prior to collecting the main data for this study, the GOALS questionnaire was administered to 35 adolescents. Five months later it was administered once again to the same adolescents to evaluate the reliability of their responses. The results showed a temporal stability of .72 for achievement goals, .63 for intimacy goals, and .81 ($p < .01$) for power goals (three-item scale).

Satisfaction With Life

The SWLS was administered to 295 male adolescents (Table III). One item in the questionnaire (*so far I have gotten the important things I want in life*) was not used in the subsequent analyses because discussion with Zambian colleagues concerning the translation and retranslation of the Chitonga version revealed that its focus on material aspects was too explicit. Considering the relatively moderate economic and financial status of most study participants (e.g., subsistence farming) and their commentary during discussions about life satisfaction, it was clear that many individuals switched their basis of evaluation when rating the fourth item of the SWLS. In these cases, participants often focused narrowly on the material deficiencies in their lives.

Factor analysis was used to analyze the remaining four items of the questionnaire on satisfaction with life. The application of principle component

Table II. Factor Loadings of the Goal Categories Achievement, Intimacy, and Power ($N = 250$)

Item	Achievement	Intimacy	Power
Continuously improve myself	.613		
Develop my skills	.442		
Broaden my horizons	.437		
Improve my education continuously	.412		
Have trusting relationships with other people		.469	
Receive affection and love		.435	
Give affection and love		.352	
Have a close relationship		.326	
Have prestigious positions			.537
Have a high social status			.407
Gain public recognition			.356
Be able to exert influence			.285

Table III. Satisfaction With Life: Factor Loadings for the Zambian Adolescent Sample ($N = 295$)

Item	Factor loading
The conditions of my life are excellent	.829
I am satisfied with my life	.735
In most ways my life is close to my ideal	.508
If I could live my life over, I would change almost nothing	.222
Percentage of variance explained (principle component analysis)	38.37

Note. Item excluded from factor analysis: so far I have gotten the important things I want in life.

analysis produced one factor (eigen value > 1) that accounted for 38.37% of the variance.

Following Diener et al. (1985), this factor is referred to as global *life satisfaction*. Within the sample of 120 adolescents specifically relevant to this study, the alpha value of the factor is .57 after the most ambiguous item (*if I could live my life over, I would change almost nothing*) was dropped to enhance the internal consistency of the scale. Consequently, the three-item scale was used in further analyses of life satisfaction. Similar to the data on the importance of life goals, the measurements of life satisfaction ($N = 35$) demonstrate reasonable temporal reliability. Responses on this topic showed a correlation of .66 ($p < .01$) over a 5-month period.

General Statistics and Correlations Between Explicit and Implicit Motives

Table IV presents descriptive data on implicit motives, life goals, and satisfaction with life ($N = 120$). The scores on life goals and two of the scores on implicit motives (*n* Achievement and *n* Power) were skewed and, therefore, violated the normal-distribution requirement for correlation and regression analysis.

Table IV. Descriptive Statistics of Implicit Motives, Life Goals, and Satisfaction With Life ($N = 120$)

Measurement	*M*	*SD*
n Achievement	4.17	5.34
n Affiliation	6.76	5.83
n Power	6.08	6.26
Achievement goals	4.26	0.69
Intimacy goals	4.06	0.63
Power goals	3.56	0.91
Satisfaction with life	3.78	1.44

Accordingly, we normalized the scores (square root transformation and squaring, respectively).[7]

Correlations between one's implicit motives (TAT) and the importance of life goals (GOALS) were computed to examine the relationship between the two independent measures of a particular motivational domain. Correlations were applied with *z*-transformed variables (Aiken & West, 1991). As predicted, the results show that the independent measures of a motivational domain do not correlate significantly. Only self-attributed achievement goals show a tendency for correlating significantly with *n* Achievement ($r = 0.17$, $p < .06$).

Life Satisfaction and Motive Congruence

Linear regression analyses (method: simultaneous) were used to examine whether congruence between a particular implicit motive and its explicit motivational counterpart is significantly associated with an individuals' greater satisfaction with life. Following the hierarchical analyses recommended by Aiken and West (1991), we converted both the predictor and dependent variables to *z*-scores. A separate analysis was computed for each motivational domain (achievement goals and *n* Achievement; intimacy goals and *n* Affiliation; power goals and *n* Power). In addition to the importance of a goal category and the strength of its implicit counterpart, the age and level of education of each participant were incorporated to form a set of first-order predictors (Block 1) since previous studies have shown that age and level of education relate significantly to an individuals' life satisfaction (Diener et al., 1997). The influences of the life goal and implicit motive interaction coefficients (higher order terms: e.g., achievement goals $\times$ *n* Achievement) on life satisfaction were tested after controlling for the underlying variables (Block 2).

The results of these analyses are shown in Table V. As shown in the results for Block 1, the age of a participant was not related to his perceived life satisfaction. The variable pertaining to school educational level (βs $= -.23$ to $-.27$, $p < .01$), however, accounted for a significant portion of the variance in the three regression analyses computed for an individuals' satisfaction with life, such that a lower level of education was significantly associated with a greater level of life satisfaction. Furthermore, no significant correlations between life satisfaction and the strength of implicit motives were obtained. In contrast, one's satisfaction with life tended to be significantly associated with a greater importance attributed to the goals of achievement, power, and intimacy (βs $= .15$–$.17$, $p < .10$).

Significant associations between motive congruence and life satisfaction were obtained for two of the three motivational domains. For the domain of achievement motivation, additional variance in life satisfaction was explained by the interaction

[7]Results from analyses with raw data show no substantial differences from the findings reported in this paper.

Table V. Life satisfaction: Influence of Motives, Motive Congruence, Age, and Level of Education Linear Regressions (Method: Simultaneous; $N = 120$)

		Outcome: Life satisfaction			
Motivational domain	Block	Predictor variables	β	Adjusted R^2	F-value
Achievement	1	Age	−.05	.08***	3.68
		Level of education	−.26***		
		n Achievement	.12		
		Achievement goals	.17*		
	2	*n* Achievement × Achievement goals	.22**	.12***	4.22
Affiliation	1	Age	−.00	.05**	2.71
		Level of education	−.27***		
		n Affiliation	.02		
		Intimacy goals	.15*		
	2	*n* Affiliation × Intimacy goals	.18**	.08**	3.02
Power	1	Age	.00	.07*	3.28
		Level of education	−.23***		
		n Power	.11		
		Power goals	.16*		
	2	*n* Power × Power goals	.00	.06**	2.61

* $p < .10$.
** $p < .05$.
*** $p < .01$.

coefficient (Block 2) Achievement goals × *n* Achievement (R^2 change = .04). Following the procedure recommended by Aiken and West (1991), Fig. 1 graphs the significant interaction results for the motivational domain of achievement. To clarify the nature of the interaction, we calculated life satisfaction scores at values

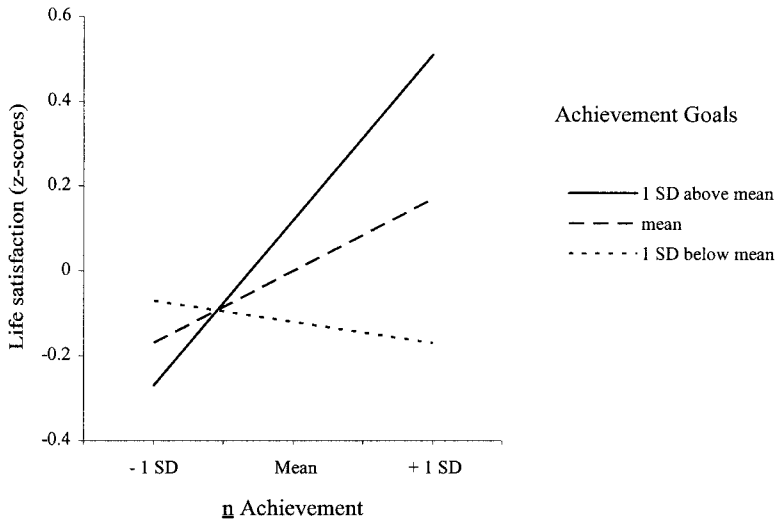

Fig. 1. Level of life satisfaction and its relationship to the association of achievement goals and *n* Achievement.

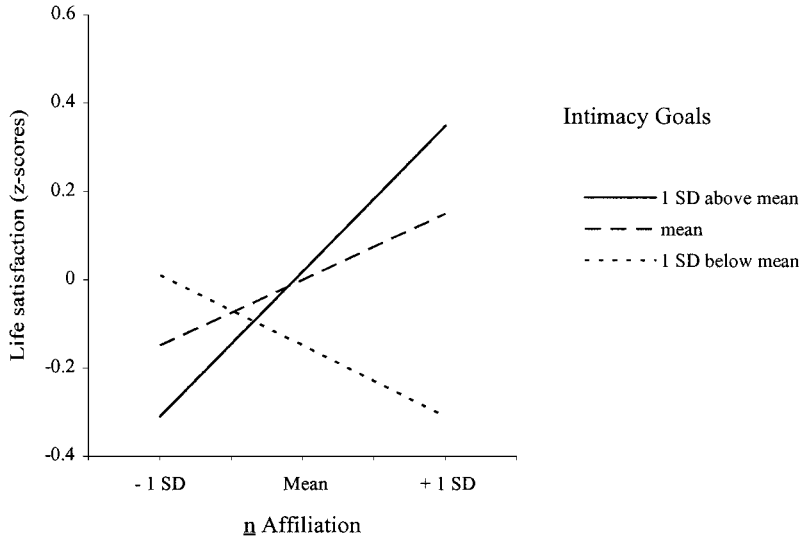

Fig. 2. Level of life satisfaction and its relationship to the association of intimacy goals and *n* Affiliation.

one standard deviation below the mean, the mean, and one standard deviation above the mean for predictor variables in the significant interaction term. As shown in Fig. 1, individuals who placed great importance on achievement goals in addition to having a strong implicit achievement orientation reported higher perceived levels of satisfaction with life.

Similarly, for the domain of affiliation motivation, additional variance in life satisfaction was explained by the interaction coefficient (Block 2) Intimacy goals $\times$ *n* Affiliation (R^2 change $=$ .03). Figure 2 illustrates the relationship between life goals and implicit motives, and an individual's satisfaction with life for the motivational domain of affiliation. Individuals who showed high scores (one standard deviation above mean) for intimacy goals and implicit *n* Affiliation reported a greater satisfaction with life than those who scored low for both motives, or those who showed a pronounced negative relationship between their explicit and implicit motivations.

For the domain of power motivation, a significant relationship between motive congruence and life satisfaction were not obtained.

DISCUSSION

Motives and Life Satisfaction

The preceding analyses of the Zambian adolescent sample revealed some results similar to those from previous research on the motivation and subjective

well-being of European American study participants. The lack of significant correlations between implicit motives and life goals is consistent with Western samples that show self-report questionnaire measures of motive strength are only minimally correlated with TAT measures (operant measures; e.g., Brunstein et al., 1999; King, 1995). Only a weak correlation between the measurements of achievement motivation (the importance of achievement goals and implicit *n* Achievement) is reflected by our sample (see also Spangler, 1992).

Considering subjective well-being and goals, Emmons (1986; see also Cantor & Sanderson, 1999; Zalewska & Brandtstädter, 2001) notes that a strong commitment to personal strivings relates to the meaningfulness of, and level of satisfaction with, one's life (McGregor & Little, 1998). Our findings support this notion because among the Zambian adolescents, the importance of life goals was associated with greater reports of satisfaction with life.

Cantor and Blanton (1996) argue that an individuals' commitment to goals may be influenced by their implicit motives. Going beyond this argument, Brunstein et al. (1999) postulate that the pursuit of goals based on an implicit motive contributes to the fulfilment of needs. They showed that in European samples congruence between explicit and implicit motives is associated with greater levels of emotional well-being. In the Zambian sample, our study shows that motive-goal congruence in the domains of achievement and affiliation are significantly related to greater levels of satisfaction with life.

High evaluations of intimacy-oriented and achievement-oriented life goals are associated with greater life satisfaction if they occur in tandem with a strong implicit need for affiliation and achievement, respectively. However, our model does not support causal conclusions about the relationship between life satisfaction and motives. Brunstein (2001) found that participants who reported a high level of emotional well-being preferentially commit themselves to goals consistent with their dominant implicit motives. Therefore, participants who are significantly satisfied with their lives may place greater importance on motive-congruent goals.

On the one hand, our findings contribute support to the notion that the relationship between motive-goal congruence and subjective well-being identified in Western samples may be a human universal. Sheldon and Elliot (1999) argue that goals can be important vehicles for satisfying psychological needs; congruence between goals and psychological needs is expected to enhance one's attainment of such goals and subjective well-being. Individuals may perceive motive-congruent personal goals to be self-generated, fully integrated strivings that promote the satisfaction of needs (Ryan, Deci, & Grolnick, 1995). On the other hand, our findings show that besides being related to emotional well-being, motive-goal congruence is also associated with the judgmental component of subjective well-being. Future studies, therefore, could consider measuring all three components of subjective well-being (e.g., positive affect, negative affect, and life satisfaction; Diener et al., 1985). This strategy may provide a more meaningful understanding of the relationship between motive-goal congruence and subjective well-being.

An association of motive congruence and enhanced satisfaction with life was not verified for the domain of power motivation. It may be possible that the emphasis in this goal category did not represent a conscious counterpart of *n* Power for Zambian adolescents. It primarily emphasized life goals associated with an individual's status-oriented strivings. Zambian adolescents may be too young to place a serious concern on issues relating to status and power. In Gwembe Tonga communities, the social status of males is closely linked to marriage and fatherhood; these events normally do not occur until one reaches his late twenties. Accordingly, the majority of Zambian adolescent interviewees rarely spoke of their own social status. Instead, they usually portrayed themselves as undifferentiated dependents of their ascending familial relatives. It was also apparent that status-oriented goals were significantly less important to them than other life goals (Hofer, 2000). Such a tendency has also been reported for young adults in Western cultural settings. Emmons (1991) has documented that undergraduates in the United States reported having relatively few strivings related to power. Consistent with this finding, Veroff, Reuman, and Feld (1984) have reported that power motivation often does not peak earlier than middle adulthood.

Self-determination theory (Deci & Ryan, 1985) may provide another explanation for the apparent lack of correlation between motive-goal congruence in the power domain and life satisfaction. Ryan, Sheldon, Kasser, and Deci (1996) have suggested that some goals serve intrinsic needs, whereas other goals such as those related to status and power are extrinsic in nature. The authors maintain that the degree to which individuals fulfill needs and maximize their subjective well-being depends strongly on the pursuit of intrinsic goals (see also Veenhoven, 1991). In this view, status-oriented goals are usually found to be less intrinsically satisfying. Sheldon and Elliot (2000) emphasize that it is important to understand how life goals vary and how they affect an individual's subjective well-being differently (see also Oishi, Diener, Suh, & Lucas, 1999).

Education and Life Satisfaction

Although the age of the participants did not appear to influence life satisfaction, one's level of education related significantly to perceptions of life satisfaction. Contrary to other studies (Diener et al., 1997), relatively well-educated Zambian adolescents reported lower levels of life satisfaction. Hofer (2000) has suggested that students who are exposed to Western values in the formal educational system for extended lengths of time may commit themselves to goals and life plans that are difficult to attain in their socioeconomic environment. Consequent frustration may promote the expression of generally lower levels of life satisfaction. Our results suggest, therefore, that social characteristics like one's level of education should not be neglected in future research.

Limitations and Future Perspectives

The limitations of this study must be considered even though it has substantiated the validity of some conclusions about personal motivation based on non-Western data. Among these limitations, the low to moderate internal consistency of goal categories is worth mentioning. Even if the category achievement reaches an acceptable alpha value of .6 (Nunually, 1978), the coefficients for the goal categories intimacy and power are low despite their apparent face validity (life satisfaction lies in the vicinity of .6). However, the retest as a straightforward measure of the performance of an instrument tends to support the validity of our results. According to Zalewska and Brandtstädter (2001), low internal consistency coefficients may indicate that the components of a construct represent its different facets although each of them may be similar in psychological meaning and statistical relationships. Therefore, low internal consistency may reflect the use of domains based on multiple constructs, not unreliable results. In addition, different items may serve as alternative, not simultaneous expressions of a striving.

Another thing to consider is that multiple models can be adequately fit to the structure of a data set when interpreting the findings using confirmatory factor analysis (Biddle & Marlin, 1987). Consequently, selecting a model with good fit does not necessarily mean that it is the optimal model for that data. Research conducted in non-Western cultures has revealed that Asian and African populations demonstrate a motivation toward socially oriented achievement (e.g., Earley, 1994; Kagan & Knight, 1981; Maehr & Nicholls, 1980). Socially oriented aspirations of achievement are ultimately based on an endeavor to embrace the expectations and needs of persons or groups significant to a particular actor. Hofer (in press) has reported evidence that achievement-oriented strivings seem to be closely linked with the relatedness-oriented strivings of Zambian individuals. Cultural orientations (e.g., prevalent values and socially reinforced normative behaviors) have a strong impact on an individuals' development (Keller, 2000; Markus & Kitayama, 1991; Veroff, 1983). Cantor (1994) argues that one's goals are directly influenced by one's culture. Therefore, one should aim to develop meaningful construct categories for non-Western samples that have satisfying internal consistency coefficients (e.g., the emic approach; see Berry, 1989; van de Vijver & Leung, 1997). Future studies on human motivation should also acknowledge that the content and function of life goals may change over the life course (Lowenthal, 1971).

Investigation of the factors underlying the interplay of implicit and explicit motives has only just begun. Miron and McClelland (1979) have already suggested that systematic experience based on self-observation may permit one to align both types of motives (see also Bucci, 1985, 1997; Schultheiss & Brunstein, 1999). Brunstein (2001; see also Kuhl, 2001) recently pointed to the importance of dispositions of action control in research on the relationship between implicit and explicit motives. In this context, the approach by Isen (2003) emphasizing the

close linkage between affect and cognitive and motivational processes seems to be a promising direction for future research.

We suggest that subsequent studies along these lines should have a cross-cultural emphasis because most research on implicit motivation, life goals, and the relationship between these motivational systems has been based only on European American data. Although efforts conducted in a cross-cultural context usually face a number of additional methodological problems (van de Vijver, 2000; see also Hofer & Chasiotis, 2002), they can generate results that broaden our understanding of human motivation, and help to evaluate the universal applicability of psychological theories, models, and assumptions.

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