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Investing in resources: An interaction model of personal resources, commitment, and work achievement

Jean-Pierre Neveu¹ | Rahman Khan² | Ghulam Murtaza³

¹Université de Pau & des Pays de l'Adour in Bayonne, Bayonne, France

²Westminster International University, Tashkent, Uzbekistan

³Kedge Business School, Marseille, France

Correspondence

Jean-Pierre Neveu, Université de Pau & des Pays de l'Adour in Bayonne, 8, allées des platanes, Bayonne 64100, France.

Email: jp.neveu@univ-pau.fr

Abstract

Objective: Management practice commonly assumes that the value of a work-goal dictates the nature of motivation processes. We investigate instead how individuals invest resources from the perspective of their own value system. Drawing from Conservation of Resources theory, we explore the valuation process by testing a reciprocal model between work-goal attainment, goal commitment, and personal resources, including self-efficacy, optimism, and subjective well-being.

Method: Data were collected in a two-wave longitudinal study among sales professionals ($n = 793$) from France (F), Pakistan (P), and the United States (U).

Results: Multi-group cross-lagged path analysis confirmed the reciprocal model across all three countries. Time 1 resources and goal commitment predicted work goal attainment ($F = 0.24$; $P = 0.37$; $U = 0.39$) and ($F = 0.31$; $P = 0.40$; $U = 0.36$) respectively. T1 level of goal attainment also fuelled T2 resources and goal commitment ($F = 0.30$; $P = 0.29$; $U = 0.34$) and ($F = 0.33$; $P = 0.32$; $U = 0.29$).

Conclusions: Our reciprocal findings suggest a revised approach on the nature of targets and goals. They indicate an alternative to linear path modeling, as the role of goal commitment is not necessarily that of an intermediary stage linking antecedent resources to attainment purposes. Furthermore, cultural values play a differentiating role in the goal-attainment process.

KEYWORDS

conservation of resources theory, culture values, goal commitment, motivation resources, work-goal attainment

1 | INTRODUCTION

What is the nature of motivational investment? It is an output-oriented process where goals are reached by increasing the value of applied resources. Based on this logic, management practice commonly assumes that individuals contribute their resources to the benefit of identified end-goals. Motivation is viewed as a unidirectional outcome-oriented investment process, the same way a mathematical function is an operating process of value transformation. Practically, Management-by-Objectives

(MBO), stretch targets, and benchmarking, are but selected variations around a common theme of organizational initiatives that believe in the value of guided behaviors to achieve outcome performance (Carroll & Tosi, 1970; Cianci et al., 2010; Lunenburg, 2011). This reflects a goal-setting perspective (Gee et al., 2018; Locke & Latham, 1990), where a goal is an end in itself, and achievement is the measure of value.

At the same time, however, research has examined motivation for goals as a multi-stage striving process that distinguishes between goal setting and goal attainment.

For instance, authors have focused on resource allocation and post-decision adjustment of resource allocation mechanisms (Diefendorff & Lord, 2008; Klein et al., 2008). This research perspective enriches the study of goal motivation in several directions. First, it suggests that the process of goal pursuit should be better distinguished from end-result reward expectations (Fishbach & Choi, 2012; Tubbs & Ekeberg, 1991). Second, it indicates that a focus on dynamics challenges the view of inherently positive or negative psychological states, with possible reversibility depending on contextual functionality (Grant & Schwartz, 2011; Tan & Forgas, 2010). Third, that goal striving ought to be considered from the perspective of complex interactions between concurrent (“co-activating”—Fishbach & Ferguson, 2007) processes, in relation to one or several simultaneous injunctions (Boudreaux & Ozer, 2013; Emmons & King, 1988). Finally, it suggests that context can impact the goal-oriented resource investment process, as individuals develop their own reading of supposedly “explicit” and “objective” work features and injunctions through norms and values (Aycañ et al., 2000; Erez & Earley, 1993; Leung & Morris, 2015).

Based on such advancements in the literature, the main focus of the present research is on the nature of interactions between those resources and goals that fuel the motivation process. By resources, we mean those sources of motivation that individuals centrally value, and strive to obtain, retain, foster, and protect (Hobfoll, 1989, 2001). Departing from a linear means-end resource allocation framework, the aim is to explore motivational dynamics from the perspective of an individual's values that shape reciprocal interactions between perceived personal resources, goal commitment, and work-goal attainment. In continuation of previous studies (Morelli & Cunningham, 2012), a first expected contribution is therefore to explore how differences in psychosocial values can affect a non-linear process of resource investment. As highlighted by the literature, however, an individual value system is embedded within a cultural context (Gelfand et al., 2017; Hobfoll, 1988; Hobfoll et al., 2018). Hence, the present study considers how cultural values impact motivational resource investment processes. Finally, this research is expected to provide additional guidance for organizational effectiveness, especially with regard to work motivation and reward management. For instance, the stress literature has long underscored the impact of value and of cognitive-transactional factors on individual and organizational achievement (Schwarzer & Taubert, 2002; Smith et al., 2011). A purpose of the present study is therefore to extend its research contribution to the benefit of a greater integration of motivation processes within goal-oriented organizational management.

2 | RESOURCES AND GOALS

The way goal-management is practically exercised is very much contingent upon underlying, and at times conflicting, theoretical perspectives (Burrell & Morgan, 1979). In the present section, we thus start by contrasting approaches that consider the nature of relationships between resources and goals. Based on this, we then develop the rationale for a perspective where goals and resources are integrated within a complex interplay between motivation and perceived values.

2.1 | Conflicting paradigms

Most commonly, relationships between resources and goals are considered from a stock-like metaphor, where a disposable supply of resources can be tapped on demand (Peterson et al., 2011; Xanthopoulou et al., 2013). For instance, the Person Resource Allocation (PRA) model (Grawitch et al., 2010) theorizes a system where a finite amount of resources feeds an allocation process oriented by demands. Individuals are assumed to rationally choose where and how to allocate their resources.

We suggest two limiting assumptions to this approach. First, it implicitly endorses the idea of controlled rationality whereby actors optimize their resource allocation. Research, however, has shown how subjective norms limit volitional control (Ajzen, 1988), and how implicit judgmental *frames* can distort rational choice (Goffman, 1974; Tversky & Kahneman, 1986). Second, it postulates a disconnect between resources and goals. This scenario can effectively be the case when goals are perceived as imposed by the environment. Goals are thus experienced as forms of demands. Yet, the perspective can also be that of self-imposed goals. Here, goals integrate individual expectations and likes, as striving for a purpose generates states of greater meaningfulness (Barrick et al., 2013).

2.2 | A value-based approach

In a cogent review, Eccles and Wigfield (2002) emphasize how “individual's values influence the attractiveness of different goal objects” (Eccles & Wigfield, 2002, p. 121). The impact of valued self-schema and identity constructs thus turns the relationship between input/resources and output/goals into a valuation process. From such a perspective, it can be said that resources identify as potentialities rather than as fixed universal motivation boosters.

Coherent with this view, Conservation of Resources (COR) theory provides a useful framework for understanding. Since its founding publications (Hobfoll, 1988,

1989; Hobfoll & Shirom, 1993), COR theory has become a leading theoretical framework of stress and health psychology applied to various levels, e.g. individual, interpersonal, organizational, and societal (Hobfoll et al., 2018). It has often been overlooked, however, that this theory should not be restricted to stress modeling only, as it conditions stress to underlying motivational dynamics of an evolutionary-based negativity bias. The scope of COR basic principles thus extends beyond health psychology with applications to other cognitive processes. In the present research, we argue that COR theory advancements signal implications for bridging resources and goals. Relevant research streams include issues on the nature and the role of resources (Halbesleben et al., 2014), the dynamic patterns of *resource caravans* through *resource passageways* (Hobfoll, 2012, 2014), and the dyadic process of resources between individuals and environments (*resource crossover*) (Chen et al., 2015; Westman, 2001).

On one hand, COR theory posits that resources exist in relation to a goal process. They do not exist in absolute. A resource means relevancy. As individuals may not fully be aware of their own potentials, they can under-estimate (under-value) their resources. From a COR perspective, resources are first level means to an end. They are vectors of more basic needs among which preservation is of prime importance. In this respect, COR theory is a theory of valued motivation, with resources akin to goal attainment facilitators (Halbesleben et al., 2014), and goals to extensions/outcomes/realizations of what is being valued.

On the other hand, however, the theory also proposes that both the nature and the dynamics of resources ought to be understood within the context of subjective environments (Hobfoll, 1988, 2001). Hence, the link between resources and goals reflects dynamics of an ecological fit that, in turn, determines the perceived value of goals and resources. The resource reservoir metaphor equates to an open-ended matrix that processes and recycles psychological factors in order to sustain the fit with situational demands. More than means to an end, resources correspond to vectors of valued processes.

3 | AN INTERACTION MODEL OF RESOURCES AND GOAL ATTAINMENT

The complex relationship between resources and goal attainment calls for modeling that goes beyond linear cause-to-effect explanations. It requires analyzing interactions between variables with no clear antecedent status to goal attainment. Earlier studies would sophisticate

the path model framework by including more independent variables and moderating/mediating effects (Beehr & Love, 1983). More recent literature development, however, does not accommodate with models where 1/goals have intrinsic value, and 2/goal striving follows a unidirectional path from selected determinants to the outcome of goal attainment (Berg, 2015; Shaddy & Fishbach, 2018). In the present research, we thus explore a non-directional model of goal attainment. We suggest that goal value cannot be considered outside of an interactive process between components of a psychological system. Specifically, invested resources are considered valuable to the extent that they are instrumental to achieve. At the same time, goal achievement is valued for it serves the purpose of valued expectations of which resources are the means.

In line with COR-based research, and coherent with the goal literature, we thus develop a cross-lagged model of simultaneous goal attainment-related variables. These include such psychological variables as personal resources (e.g., self-efficacy, optimism, and subjective well-being), and goal commitment.

3.1 | Personal resources

3.1.1 | Self-efficacy

Defined as “beliefs in one’s capabilities to organize and execute the course of action required to produce given attainment” (Bandura, 1997, p. 3), the notion of self-efficacy is intimately linked to that of goal attainment. From an agentic perspective that relates to effort expectancy, self-efficacy provides motivational regulatory mechanisms that determine effort investment and persistence during the goal-pursuit process (Bandura, 2001; Laguna et al., 2017; Tolli & Schmidt, 2008). To the extent that self-efficacy is associated with beliefs on performance, it has also been considered a significant personal resource in COR-based research (Halbesleben et al., 2014; Hobfoll, 2001). For instance, Vinokur and Schul (2002) showed a positive impact of self-efficacy on job search motivation and intensity. Furthermore, researchers have suggested that self-efficacy can be self-debilitating (Bandura & Locke, 2003). Considering the expectancy of efforts to be invested, self-efficacy has thus shown negative, null, curvilinear, monotonic, or even discontinuous relationships with work performance (Beattie et al., 2017; Sitzmann & Yeo, 2013; Vancouver et al., 2014). Finally, it should be noted a lack of longitudinal studies on self-efficacy and its relationship with other resources with regard to goal attainment and COR theory.

3.1.2 | Optimism

Optimism refers to the expectancy of a positive outcome that encourages persistence in the face of obstacles (Schulman, 1999). It relates to psychological health and work outcomes (Scheier & Carver, 1985; Youssef & Luthans, 2007). While striving, optimistic people have been found to exert more effort than pessimists to reduce discrepancy between the desired goal and the situation (Gaudreau & Blondin, 2004). Higher level of confidence enables them to pursue goals tenaciously and to make flexible goal adjustment in unfavorable conditions (Hanssen et al., 2015). A personal resource, optimism was also shown to relate to higher self-efficacy (Hobfoll, 2001). Yet, and as for self-efficacy, studies have found non-linear as well as negative relationships between optimism and work performance (Brown & Marshall, 2001; Hmieleski & Baron, 2009).

3.1.3 | Subjective well-being

Subjective well-being (SWB) is commonly investigated as a positive outcome of a resource gain cycle (Avey et al., 2010). From a goal-striving perspective, however, it can be argued that SWB refers to a psychological asset that helps individuals to carry out their objectives in the best psychological conditions. SWB thus corresponds to an energy resource (Hobfoll, 2001), whose perceived efficiency is deemed instrumental for goal attainment (Grawitch et al., 2010). From an outcome, SWB turns into an input.

3.2 | Goal commitment

As theorized, the path to goal attainment can be considered from the perspective of psychological efficiency, where goal attainment is embedded within a valued process fuelled by goal commitment, “a volitional psychological bond reflecting dedication to and responsibility for a particular target” (Klein et al., 2012, p. 137). Goal commitment plays a key role in self-regulation (Meyer et al., 2004), and relates to effort investment and productivity (Becker et al., 2018). Commitment has been incorporated into major motivational frameworks (Brickman, 1987). Expectancy theory, for instance, provides one of the first comprehensive attempts to link the various stages of a goal-striving process (Mitchell, 1982). Since, research has confirmed how goals and means would define each other, as goals are part of a process of endogenous motivational value (Kruglanski, 1975; Touré-Tillery & Fishbach, 2014).

As a means to an end, the value of goal commitment relates to its expected instrumentality. Yet, we argue

that such instrumentality has no set value. In extending Kruglanski et al.'s (2018) research, we suggest that the relationship between goal commitment and work-goal attainment depends on the extent to which determinant resources are valued, as this has been shown for instance with self-efficacy (Wofford et al., 1992) and optimism (Monzani et al., 2015).

Based on the above theorizing, we now formulate the following hypotheses:

- H1.** Time 1 personal resources relate positively to Time 2 goal commitment and goal attainment.
- H2.** Time 1 goal commitment relates positively to Time 2 personal resources and goal attainment.
- H3.** Time 1 goal attainment relates positively to Time 2 goal commitment and personal resources.

Furthermore, and as theorized above, we test Cross-Lagged Path Analysis (CLPA) to verify reciprocal relationships between all study variables, including personal resources, goal commitment, and goal attainment. Hence, we hypothesize the following:

- H4.** Personal resources, goal commitment, and goal attainment relate reciprocally.

4 | THE ROLE OF CONTEXT

COR theory stresses how resources do not emerge from, nor evolve in, a vacuum. According to Hobfoll (2001), they are subject to a veritable “commerce (...) among individuals nested-in families, nested-in organizations, nested-in communities” (Hobfoll, 2001, p. 161). Resource dynamics reflect processes of ecological congruence that confer external (situational) meaning and value to individual attitudes and behavior. Already, COR-based studies have found that both meaning and development of such resources as optimism and self-efficacy are tributary to social and cultural conditions (Hobfoll, 2011, 2012; Hobfoll et al., 2018).

Yet, and while cross-cultural research noted differences on such goal-related issues as performance orientation, uncertainty avoidance, and future orientation (Maleki & De Jong, 2014; Tang & Koveos, 2008), much remains to close the gap with Industrial Psychology/Organizational Behavior theorizing. With regard to goal attainment processes, it can thus be argued that

cultural norms and values correspond to such social and ecological factors that impact the process of psychological resource investment. The literature has already investigated differences between so-called *process* and *result*-oriented cultures (Escalas & Luce, 2003; Hofstede, 1997). Process-oriented cultures would thus pay less attention to the goal of action, and focus on the step-by-step work-out toward the desired outcome. Conversely, result-oriented cultures would put a maximum effort into goal achievement. Results emerge from the Globe Survey (House & Javidan, 2004) that would suggest a similar trend, with the highest performance orientation and assertiveness to be found among cultures of the Anglo Group.

We therefore enrich our interaction model with a test in different cultures. Not as a full-fledged cross-cultural hypothesis, which would exceed the scope of this study, but as an exploratory path to indicate the extent to which the value of a goal relates to socially valued resources and norms.

Specifically, and coherent with COR precepts, it is to be expected that the relationship between prospects of goal attainment and resources investment depends on the extent to which end-results are deemed more valuable than means. As in the world of sports, a recurrent reference for organizational management, the issue would summarize as whether “The most important thing (...) is not to win but to participate” (Pierre de Coubertin, founder of modern Olympic Games), or “Winning isn't everything, it is the only thing” (former US football coach Vince Lombardi)? This brings two additional hypotheses:

H5a. In outcome-oriented cultures, positive relationships will show stronger interactions between personal resources and goal attainment than with goal commitment.

H5b. In process-oriented cultures, the positive relationship will show stronger interactions between personal resources and goal commitment than with goal attainment.

5 | METHODS

5.1 | Procedure

The empirical phase took place over a seven-month period. Online questionnaires were administered in a two-waves one-month gap process in order to collect T1 and T2 data from sales professionals working full-time in three different countries, including France, Pakistan, and the United States.

The selection of these three countries followed two main concerns. First, and most obvious, the choice for a multi-country sample was dictated by the need to control for potential single-culture bias. Second, there was a necessity to contrast between cultures noted for their marked differences. In the present study, country selection operated on the basis of outcome versus participation orientation values. This distinction differentiates cultures that value agent-based reward from others where achievement is conditioned by social exchange process (Adler & Kwon, 2002; Johnson & Droege, 2004). As such, Pakistan and the United States have been found clear opposites on the outcome-process continuum (Merkin, 2016). This is coherent with the distinction found between these two countries with regard to their performance orientation (House & Javidan, 2004), with a US mean score ($M = 4.49$) much higher than the Pakistani ($M = 3.87$). France was selected as a complex case of a culture marked by individualism and autonomy (Gouveia & Ross, 2000) that, at the same time, emphasizes a being-orientation in opposition to doing/achievement-oriented values (Dipboye, 2018).

Target samples were contacted through online professional social network, that is, LinkedIn. Participants were limited to professionals who qualified for the criteria of having to meet objective monthly goals. Survey participation was voluntary, with no monetary reward for survey participation. Study results were made available to the respondents upon request. At T2, participants who had already completed time-lagged questionnaires related to predictor and outcome variables (T1 questionnaire) were sent reminders through the same network. To control for cultural representativeness, data were collected from different regions in each of the countries under study.

Structured questionnaires were sent to only those respondents who agreed to participate in the study. The language for questionnaires was English for the United States and Pakistan and French for France. With regard to the Pakistani sample, English was preferred to Urdu, the national language, as the questionnaire was intended for educated professionals. English is taught at all educational levels in Pakistan, so employees with a higher level of education can read and understand English without any difficulty. Moreover, and for historical reasons, English-language remains a lingua franca for business. Previous research conducted among Pakistani samples also used questionnaires in English language (Abbas et al., 2014; Bouckenoghe et al., 2015; Butt et al., 2005).

At first, questionnaires comprised items related to psychological resources (e.g. self-efficacy, optimism, subjective well-being), goal commitment, culture values as well as demographics. Then, and in order to keep a time lag between predictors and the outcome variable, participants

responded about their work-goal attainment at the end of 1 month. While excluding culture values and demographics items, similar procedure was replicated for the second month period.

5.2 | Participants

At T1, 793 participants from all three countries completed and returned valid questionnaires (France, $n = 272$; United States, $n = 280$; Pakistan, $n = 241$). Due to attrition effect, total number of T2 participants dwindled to 407 (France, $n = 139$, i.e., 51.1% of T1; United States, $n = 114$, i.e., 40.7% of T1; Pakistan, $n = 154$, i.e., 63.9% of T1). Data from T2 responses were matched using nicknames initially chosen by the participants at T1. To control for potential selection bias due to sample loss, we checked whether the professionals who took part in the second wave were significantly different from the dropouts in terms of study variables and demographic characteristics. For this purpose, multivariate analyses of variance were conducted. Results showed non-significant differences ($p > .05$) between countries on all study variables, including demographics. This validates that sample size reduction did not cause a significant selection bias.

5.3 | Measures

5.3.1 | Self-efficacy

A modified version of the Generalized Self-Efficacy Scale (Schwarzer & Jerusalem, 1995) was used to measure work-related self-efficacy. Such domain-related scale modifications have been used in previous research (Laguna et al., 2017; Salanova et al., 2011). To harmonize with the range of other scales in the survey, it was amplified to a five-point Likert scale from the original four, with higher values showing greater efficacy beliefs. The scale was composed of 10 items like “I am confident that I could deal efficiently with unexpected events at work”. Measurement ranged from 1, Strongly Disagree to 5, Strongly Agree.

5.3.2 | Optimism

We measured optimism using three items from the Life Orientation Test-Revised questionnaire (LOT-R; Scheier et al., 1994). French version of the scale was adopted from Trottier et al. (2008). Items like “I am always optimistic about my future” were tested on a 5-point Likert scale of 1, Strongly Disagree to 5, Strongly Agree.

5.3.3 | Subjective well-being

Validated English and French versions of the Satisfaction With Life Scale (SWLS) (Diener et al., 1985) were used. It consists of 5 items measured on a 5-point Likert format from Strongly disagree to Strongly agree. Sample item is “In most ways my life is close to my ideal”.

5.3.4 | Goal commitment

Measurement of goal commitment consisted in a 4-item modified version of the Klein and colleagues' Unidimensional Target (K.U.T.) neutral commitment scale (Klein et al., 2014). French and English versions were used that included such items as “How dedicated are you to the monthly sales goal”. Items were measured on a 5-point scale ranging from 1, Not at all to 5, Extremely.

5.3.5 | Work goal attainment

Work goal attainment was measured using two items adopted from Green et al. (2006). Similar measurement has been validated in previous research (Carter et al., 2016; Grant, 2003; Spence & Grant, 2007). For the first item, respondents were asked to mention their objective monthly goals in terms of sales revenue, product units or number of contracts. The second question was: “In the last month, how successful have you been in attaining your sales goals?” Responses were rated from 1 = 0% to 6 = 100%. This second item evaluated progress made from the previous month.

6 | RESULTS

6.1 | Descriptive analysis

Means, standard deviations, scale alpha reliabilities, and correlations are presented in Table 1. Moderate to high test-retest correlations in expected direction were found between study variables, including self-efficacy, optimism, subjective well-being, work goal commitment, and work goal attainment between waves in all three countries.

6.2 | Data analysis strategy

Structural equation modeling (SEM) was conducted using the maximum-likelihood method to analyze cross-cultural longitudinal data. For model fit assessment, we considered chi-square (χ^2) goodness of fit statistics,

TABLE 1 Means, standard deviations, and scale reliabilities between all study variables for all countries, France, Pakistan, and United States.

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11
<i>All countries (n = 407)</i>													
1. Gender	1.20	0.40											
2. Marital status	1.62	0.57	0.06										
3. Self-efficacy T1	3.88	0.84	-0.05	0.10*	(0.93)								
4. Self-efficacy T2	3.88	0.85	-0.10*	0.03	0.56**	(0.92)							
5. Optimism T1	3.91	0.88	-0.03	0.02	0.51**	0.45**	(0.90)						
6. Optimism T2	3.93	0.79	0.00	0.01	0.47**	0.46**	0.48**	(0.89)					
7. Sub. well-being T1	3.77	0.84	-0.08	0.17**	0.37**	0.35**	0.42**	0.32**	(0.84)				
8. Sub. well-being T2	3.72	0.86	0.02	0.10	0.40**	0.35**	0.33**	0.37**	0.41**	(0.90)			
9. Goal commitment T1	4.07	0.85	-0.01	0.06	0.46**	0.41**	0.51**	0.43**	0.44**	0.36**	(0.92)		
10. Goal commitment T2	4.12	0.83	-0.07	0.00	0.49**	0.42**	0.44**	0.44**	0.40**	0.42**	0.60**	(0.93)	
11. Goal attainment T1	4.80	1.29	-0.16**	0.11*	0.53**	0.42**	0.48**	0.37**	0.46**	0.36**	0.51**	0.53**	
12. Goal attainment T2	4.79	1.32	-0.09	0.04	0.48**	0.43**	0.42**	0.41**	0.37**	0.38**	0.54**	0.57**	0.66**
<i>Pakistan (n = 154)</i>													
1. Gender	1.09	0.29											
2. Marital status	1.55	0.51	-0.16*										
3. Self-efficacy T1	3.88	0.79	-0.19*	0.17*	(0.93)								
4. Self-efficacy T2	3.89	0.84	-0.22**	0.04	0.54**	(0.92)							
5. Optimism T1	3.92	0.90	-0.13	0.00	0.46**	0.41**	(0.91)						
6. Optimism T2	3.95	0.76	0.07	0.03	0.42**	0.44**	0.38**	(0.92)					
7. Sub. well-being T1	3.79	0.83	-0.14	0.12	0.39**	0.44**	0.31**	0.32**	(0.82)				
8. Sub. well-being T2	3.59	0.86	-0.02	0.16*	0.44**	0.36**	0.31**	0.42**	0.31**	(0.91)			
9. Goal commitment T1	4.12	0.88	-0.07	0.05	0.56**	0.45**	0.56**	0.38**	0.50**	0.44**	(0.92)		
10. Goal commitment T2	4.12	0.84	-0.04	0.10	0.58**	0.36**	0.40**	0.33**	0.41**	0.48**	0.61**	(0.93)	
11. Goal attainment T1	4.91	1.06	-0.21**	0.07	0.65**	0.47**	0.52**	0.34**	0.52**	0.42**	0.67**	0.59**	
12. Goal attainment T2	4.86	1.16	-0.16*	-0.03	0.55**	0.42**	0.46**	0.34**	0.48**	0.42**	0.66**	0.64**	0.74**
<i>France (n = 139)</i>													
1. Gender	1.20	0.40											
2. Marital status	1.63	0.58	0.04										
3. Self-efficacy T1	3.78	0.90	-0.10	0.00	(0.93)								
4. Self-efficacy T2	3.83	0.85	-0.19*	-0.04	0.65**	(0.93)							

(Continues)

TABLE 1 (Continued)

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11
5. Optimism T1	3.91	0.89	-0.07	-0.00	0.56**	0.57**	(0.89)						
6. Optimism T2	3.86	0.89	-0.06	-0.10	0.54**	0.57**	0.57**	(0.87)					
7. Sub. well-being T1	3.66	0.86	-0.07	0.20*	0.37**	0.37**	0.42**	0.30**	(0.87)				
8. Sub. well-being T2	3.83	0.94	0.00	0.09	0.44**	0.42**	0.40**	0.40**	0.63**	(0.90)			
9. Goal commitment T1	4.02	0.77	0.00	0.04	0.41**	0.47**	0.54**	0.47**	0.42**	0.42**	(0.91)		
10. Goal commitment T2	4.09	0.85	-0.09	-0.07	0.45**	0.49**	0.48**	0.50**	0.38**	0.52**	0.63**	(0.94)	
11. Goal attainment T1	4.58	1.56	-0.13	0.07	0.48**	0.40**	0.49**	0.34**	0.43**	0.46**	0.44**	0.54**	
12. Goal attainment T2	4.57	1.53	-0.10	0.03	0.37**	0.36**	0.38**	0.37**	0.26**	0.39**	0.44**	0.51**	0.60**
<i>United States (n = 114)</i>													
1. Gender	1.35	0.48											
2. Marital status	1.70	0.62	0.15										
3. Self-efficacy T1	4.03	0.82	0.06	0.14	(0.94)								
4. Self-efficacy T2	3.94	0.87	0.05	0.10	0.48**	(0.91)							
5. Optimism T1	3.92	0.87	0.09	0.10	0.52**	0.35**	(0.90)						
6. Optimism T2	4.01	0.72	-0.03	0.13	0.40**	0.35**	0.52**	(0.88)					
7. Sub. well-being T1	3.88	0.80	-0.08	0.17	0.32**	0.21*	0.59**	0.34**	(0.81)				
8. Sub. well-being T2	3.76	0.75	0.00	0.00	0.30**	0.26**	0.25**	0.27**	0.27**	(0.89)			
9. Goal commitment T1	4.06	0.88	0.05	0.11	0.43**	0.32**	0.42**	0.45**	0.39**	0.21*	(0.93)		
10. Goal commitment T2	4.15	0.79	-0.09	-0.02	0.41**	0.42**	0.46**	0.51**	0.41**	0.20*	0.58**	(0.93)	
11. Goal attainment T1	4.91	1.16	-0.18	0.24**	0.49**	0.40**	0.45**	0.47**	0.45**	0.15	0.45**	0.49**	
12. Goal attainment T2	4.95	1.21	-0.04	0.12	0.54**	0.55**	0.46**	0.56**	0.39**	0.36**	0.55**	0.60**	0.68**

Note: Reliability coefficients alpha of scales is presented on diagonal.

* $p < .05$; ** $p < .01$.

comparative fit index (CFI), and root mean square of approximation (RMSEA). To confirm differences between alternative models, χ^2 difference test ($\Delta\chi^2$), and the difference in comparative fit index (Δ CFI) were also computed (Brown, 2006).

To reduce the complexity of the hypothesized model, all three psychological resource variables were taken as underlying dimensions of a common factor across all three countries (Xanthopoulou et al., 2009). First, and as suggested by Podsakoff et al. (2003), item-level confirmatory factor analyses were conducted for each time measurement in all three countries. Second, we proceeded to test the uncorrelated first-order model (with all three personal resources treated independently) with the second-order model, in which items of respective factors were loaded separately, that is, all three personal resource variables and then all three factors loaded on an overall personal resource factor. Results of second-order factor for the French sample showed a significantly better fit than the first-order factor at both T1 and T2 (T1: $\Delta\chi^2 = 83.719$, $\Delta df = 3$, $p < .001$ and Δ CFI = 0.065; T2: $\Delta\chi^2 = 81.917$, $\Delta df = 3$, $p < .001$ and Δ CFI = 0.060). A similar pattern emerged for US and Pakistani samples.¹

6.3 | Confirmatory factor analysis

Confirmatory factor analysis was conducted to check distinctiveness of the study constructs for all samples. Specifically, two measurement models were tested, that

is, uncorrelated factor model and correlated factor model. In the first model, items of all study variables were treated as one underlying dimension of the corresponding latent factors with the addition of three psychological resources. In the second model, all latent variables were allowed to covary with each other. (Note: Overall psychological resource factor was covaried instead of the three underlying resources). The model fit comparison of both measurement models showed the correlated factor model as the better fit in all study countries as well as across time waves (Table 2).

6.4 | Invariance measurement

Measurement of invariance was conducted to check for differences among corresponding waves for three countries. To check differences between nested models, $\Delta\chi^2$ and Δ CFI were considered as indicators.

T1 results of configural invariance model without constrains showed good model fit. Then metric invariance model was tested with constrained factor loadings. The model comparison between unconstrained and constrained models showed significant invariance (Table 3), thus validating full metric invariance. Next, and as suggested by Meredith (1993), a scalar model with additional intercepts constraints was carried out that was found to vary when compared to the unconstrained model. Following Byrne's recommendations (2004), a partial invariance procedure was performed, followed by a comparison of the partial scalar invariance between all three

TABLE 2 Goodness-of-fit indices of all alternate measurement models.

Model	χ^2	df	p	RMSEA ^a	CFI ^b	Model comparison	$\Delta\chi^2$	Δ df	p	Δ CFI
A1 FR uncorrelated factors T1	181.112	114	.001	0.065	0.960					
B1 FR correlated factors T1	124.233	113	.221	0.027	0.993	A1 versus B1	56.879	1	.001	0.033
A2 FR uncorrelated factors T2	174.020	113	.001	0.063	0.968					
B2 FR correlated factors T2	112.373	112	.472	0.005	1.00	A2 versus B2	61.647	1	.001	0.032
C1 PK uncorrelated factors T1	217.326	112	.001	0.078	0.944					
D1 PK correlated factors T1	128.108	111	.128	0.032	0.991	C1 versus D1	89.218	1	.001	0.047
C2 PK uncorrelated factors T2	185.586	112	.001	0.066	0.963					
D2 PK correlated factors T2	139.274	111	.036	0.041	0.986	C2 versus D2	46.312	1	.001	0.023
E1 US uncorrelated factors T1	153.937	100	.001	0.069	0.961					
F1 US correlated factors T1	127.856	99	.027	0.051	0.979	E1 versus F1	26.081	1	.001	0.018
E2 US uncorrelated factors T2	162.306	100	.001	0.074	0.952					
F2 US correlated factors T2	123.431	99	.049	0.047	0.981	E2 versus F2	38.875	1	.001	0.029

Abbreviations: FR, France; PK, Pakistan; T1 = Time 1; T2 = Time 2; US, USA.

^aRoot mean square error of approximation.

^bComparative fit index.

TABLE 3 Measurement invariance results for corresponding waves among countries.

Model	χ^2	df	p	RMSEA ^a	CFI ^b	Model comparison	$\Delta\chi^2$	Δdf	p	ΔCFI
M1 configural invariance T1	544.879	426	.001	0.026	0.979					
M2 metric invariance T1	590.532	464	.001	0.026	0.977	M1 versus M2	45.653	38	.184	0.002
M3 scalar invariance T1	598.676	466	.001	0.027	0.976	M1 versus M3	53.797	40	.071	0.003
M4 configural invariance T2	576.526	423	.001	0.030	0.973					
M5 metric invariance T2	608.837	453	.001	0.029	0.972	M4 versus M5	32.311	30	.353	0.001
M6 scalar invariance T2	612.496	455	.001	0.029	0.972	M4 versus M6	35.970	32	.288	0.001

Abbreviations: T1, Time 1; T2, Time 2.

^aRoot mean square error of approximation.

^bComparative fit index.

TABLE 4 Multi-group SEM cross lagged path analysis results.

Model	χ^2	df	p	RMSEA ^a	CFI ^b	Model comparison	$\Delta\chi^2$	Δdf	p	ΔCFI
M1 stability model	392.395	18	.001	0.228	0.712	M1 versus M4	373.907	12	.001	0.278
M2 causality model	306.303	12	.001	0.247	0.774	M2 versus M4	287.815	6	.001	0.216
M3 reversed causation model	109.736	12	.001	0.143	0.925	M3 versus M4	91.248	6	.001	0.065
M4 reciprocal model	18.488	6	.01	0.072	0.990					

^aRoot mean square error of approximation.

^bComparative fit index.

countries. Evidence of partial metric and partial scalar invariances was found at T2 for all sampled countries.

6.5 | Cross-lagged path analysis

Cross-lagged path analysis was conducted using Multi-group SEM to test our hypothesized model cross-culturally. First, we tested the M1 stability model with autocorrelations and synchronous correlations. Results yielded a poor fit (Table 4). Second, we introduced an M2 causality model with additional paths from T1 personal resources and goal commitment to T2 work goal attainment. Results did not markedly improve the M1 model. Third, we found an acceptable fit from an M3 reversed causation model from T1 work goal attainment to T2 personal resources and work goal commitment.

Finally, we tested M4 reciprocal model that includes all paths from M2 M3, and two paths: first, from T1 personal resources to T2 work goal commitment; second, from T1 work goal commitment to T2 personal resources. The reciprocal model showed fit results superior to all other models. Autocorrelations and structural path weights for all three countries are presented in Figure 1. At T2, the reciprocal model explained 29% of resources variance, 34% of work goal commitment variance, and 43% of work goal attainment variance.

Results from all three countries suggest that, regardless of the differences in intensity, all reciprocal relationships between personal resources, goal commitment, and work goal attainment are positive. Nevertheless, H5 is only partially validated. Results for the US outcome-oriented culture confirm the positive link between work-goal attainment and personal resource development (H5a). For the Pakistani sample (H5b), however, interaction results are more evenly distributed, while data show France as a process-oriented culture.

7 | DISCUSSION

Using COR theory as a framework, this research seeks to better understand the goal valuation process. Goal value was thus tested, overtime, from two perspectives. In the first phase, hypotheses were formulated to test reciprocity between selected psychological resources, including self-efficacy, optimism, and subjective well-being, means, e.g. goal commitment, and outcome, e.g. objective measure of work goal attainment. The reciprocal model successively confirmed the positive relationship between all personal resources at T1 and goal commitment at T2 (H1), the positive link between T1 goal commitment and T2 personal resources and goal attainment (H2), and the positive relationship between goal attainment at T1 with both goal

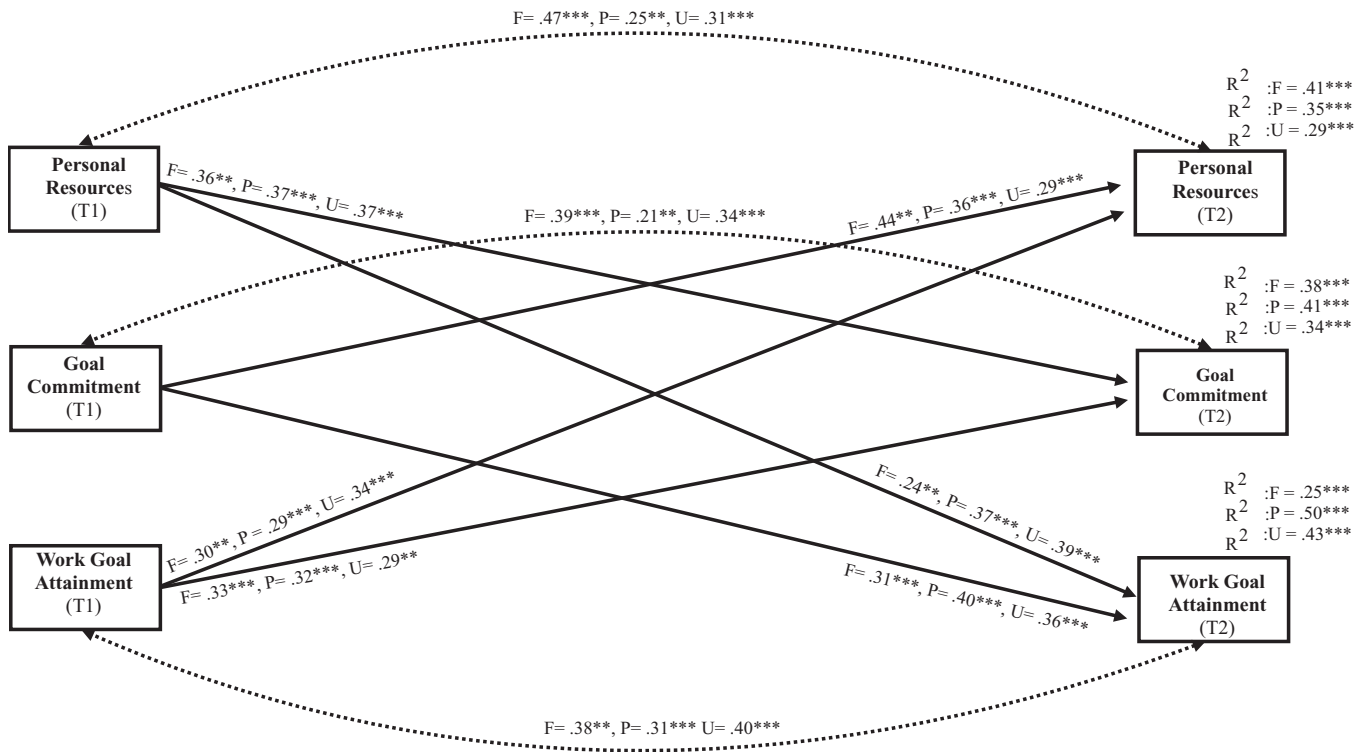


FIGURE 1 Resource-based goal valuation model in cross-cultural settings. Note. F= France; P= Pakistan; U= USA.

commitment and personal resources at T2. In all, personal resources, goal commitment, and goal attainment were found to relate reciprocally (H4).

Validation of H1–H4 hypotheses presented the view of a complex web of interactions that breaks away from a linear determinant-to-output view of goal attainment. Specifically, results show that the perceived value of personal resources owes to goal attainment, whose value itself relates significantly to not only goal commitment but also to the impact of psychological resources. Similarly, goal commitment does not limit to the role of a step stone to subsequent goal attainment, as it equally impacts resources.

Such a complex interplay of reciprocities comes to an even brighter light when controlled for cultural values. Our model explored how the value process could also be conditioned by cultural differences typified by the nature of our samples. Indeed, partial H5 validation showed contrasting results between American, French, and Pakistani samples of employed professionals, with regard to the intensity of reciprocal relations between model variables. Concerning the US sample, work-goal attainment benefits more to personal resource development. This suggests that the goal takes value when it contributes to the development of personal resources. A personal focus appears to frame the work-goal attainment process. Conversely, for the French sample, the value of a goal seems secondary, as goal commitment benefits

to future resources. This suggests that the process itself is more important than the achievement, a result consistent with the literature. Very much sensitive to such egalitarian values as social responsibility and equality, French culture has indeed often been contrasted with the transactional and winner's take-it-all orientation of US values (Cogan, 2003; d'Iribarne, 1989; Schwartz, 1999). Finally, the Pakistani sample presents yet another profile, as results show more balanced reciprocal relationships, with goal commitment and work-goal attainment relating equally to resources.

Our findings suggest a number of comments and implications. Broadly, results align with previous research on the need for alternative modeling to better grasp the complexity of resource dynamics. Indeed, testing reciprocity has met with increased interest in relation to general work performance (Miraglia et al., 2017), and specific issues of occupational health (De Cuyper et al., 2019; Grant et al., 2013). Our results show that reciprocity modeling cast new light on the role of resources in the goal striving process. Specifically, they indicate a possible alternative to linear path modeling, as the role of goal commitment is not necessarily that of an intermediary stage linking antecedent resources to attainment purposes. Reciprocity blurs the distinction between states and transitions. It suggests a flow of complex interactions, a set of dynamics where causes and consequences combine, and where the process creates its own valued goal.

With regard to the conceptual framework, our research adds to COR theory, as it explores COR's relevancy and applicability to goal seeking and attainment. Specifically, our reciprocal findings suggest a renewed focus on the nature of targets and goals, as the initial distinction between target and means comes under question. Results show that both goal commitment and work attainment fuel personal resources as two different means to an end of conservation or development. Goal achievement thus loses its intrinsic value as it turns into the expression of a transitory stage of a COR process geared toward preservation, and development, of personal self-efficacy, optimism, and SWB.

Furthermore, our results show that goal attainment, in itself an individual gratification, should be viewed in light of a value-creating process. They indicate that the valuation process can either be outcome or process-oriented (Sansone & Harackiewicz, 1996). In the former case (US sample), means are put to an end. In the latter case (French sample), it is a matter of fulfillment related to the achieving experience itself. While seemingly ambivalent, results from the Pakistani sample can vindicate a COR-based valuation interpretation. The equally important reciprocal roles played by goal commitment and goal attainment on dynamics of personal resources can relate to the multi-cultural reality of Pakistan. The professionals of our sample work in a profit-and-result-oriented organization (values of personal focus), while, at the same time, remaining embedded in a traditional societal context that emphasizes the virtue of relationships (values of social focus) (Schwartz, 2017). To the extent that educated English-speaking professionals completed the research questionnaires, we suggest that results reflect a typical Pakistani situation, where English language remains since the Colonial period a marker of class status and educational upbringing (Zaidi & Zaki, 2017). This, in turn, can translate into a valuation system of resource conservation and development processes distinct from what it could have been with Urdu-only speakers.

From a practical viewpoint, the main implication of the present research relates to the issue of reward management. Organizations have great difficulties extracting themselves from a management model where individuals are considered rational strategists motivated by incentives of pre-determined value (Jeffrey & Shaffer, 2007). The present study first confirms the moot assumption of an intrinsic value to be assigned to a goal/reward. Classic contributions (Kohn, 1993) had already pointed to the reversible nature of rewards that are relative to individual values and perceptions. Behavioral economics have further insisted on the flawed impact of incentives that would be considered outside from individual non-rational "mental accounting" (Presslee et al., 2013; Thaler, 1999). In line with research that insists on a need to consider individual

motivation in relation to the qualitative nature of goals (Deci & Ryan, 2000; Kammeyer-Mueller et al., 2016; Schmuck et al., 2000; Vansteenkiste et al., 2004), we argue that reward management should consider the intrinsic need for preserving valued motivational resources.

7.1 | Limitations and future directions

On a methodological side, the present research adds to previous two-wave tests of reciprocal modeling (Hall et al., 2010; Vander Elst et al., 2014; Xanthopoulou et al., 2009). Recent criticisms, however, have questioned longitudinal results obtained from less than a three-point test over time (Ployhart & Ward, 2011). A most valid argument, the T3 minimum standard is nevertheless hard to abide to in real professional field contexts. Unlike strictly controlled experimental designs, our samples correspond to active professionals spread over three different countries. Logistical difficulties coupled with psychological weariness on the part of the samples failed to yield an acceptable number of T3 questionnaire returns. Nevertheless, and to our knowledge, the present study is a pioneer T1/T2 example of a goal-related model tested cross-culturally.

As stated earlier, the questionnaires distributed to the Pakistani sample were in English language only. Yet, it has been argued that language can be influential on people's thinking (Harzing, 2005). We thus propose that future research reaches out to non-English speaking Pakistani samples, with versions of the scales translated into other prevalent languages, including Urdu, Punjabi, Baloch, Shindi, and Pashto. This would allow a comparison with our present results, and could further investigations on the impact of cultural values on the goal valuation process.

Finally, our selection of the resource variables could be expanded. For instance, we suggest inclusion of social support (interpersonal resource) and time (energetic resource). Concerning social support, cross-cultural investigations have indeed evidenced the impact of collectivist vs individualist values on COR dynamics (Hobfoll et al., 2018). An innovative development would thus be to integrate these findings within a research framework of goal valuation processes. As for time, its inclusion in a COR-based goal achievement study could possibly highlight a difference between cultures, depending on how they value outcome over process (Hofstede & Minkov, 2010; Pritchard & Youngcourt, 2007). For instance, collectivist cultures, such as Pakistan, tend to take more time in social relationships than in more individualist-oriented cultures, a possible indication of a greater investment in unplanned, and less objective outcomes.

AUTHOR CONTRIBUTIONS

All authors contributed substantially to the manuscript.

CONFLICT OF INTEREST STATEMENT

The authors declare that they have no conflicts of interest.

ETHICS STATEMENT

We describe our sampling plan, all manipulations, and all measures in the study, and we adhered to the Journal of Personality methodological checklist.

DATA AVAILABILITY STATEMENT

Analysis code and research materials as well as data are available upon request by emailing to the corresponding author.

ENDNOTE

¹ Results available upon request.

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