

**Intrinsic leadership: Scale development and testing its validity****Hening Riyadiningsih<sup>a</sup>, Siti Nurhayati<sup>b</sup>, Haryadi<sup>a</sup> and M. Elfan Kaukab<sup>c\*</sup>**<sup>a</sup>*Economics and Business Faculty, Universitas Jenderal Soedirman, Purwokerto, Indonesia*<sup>b</sup>*Economics Faculty, Universitas Pekalongan, Indonesia*<sup>c</sup>*Economics and Business Faculty Universitas Sains Al-Qur'an, Wonosobo, Indonesia***CHRONICLE****ABSTRACT***Article history:*

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Intrinsic leadership is a new concept of leadership and is built based on philosophically and psychologically of the intrinsic meaning. The basic philosophy of its development is a holistic leadership philosophy that integrates cognitive, affective, conative, and spiritual as the core of leadership. The purpose of developing intrinsic leadership is to create a vision and value congruence, empower cooperation between all stakeholders and especially build an organization like a family so that it creates attachment, trust, a motivation that has an impact on organizational performance. Intrinsic leadership is conceptually different from the previous concept of leadership that only rests on one or several elements that the leader has as a human. Development of measurement scales and validity testing provides a foundation that facilitates quantitative research in intrinsic leadership. There are three studies carried out, the first is scale development and testing the content validity of intrinsic leadership measurements. Testing the content validity is accomplished by analyzing and calculating the content validity index (CVI) and Kappa coefficient data are obtained from a panel expert consisting of eight experts. The second study is related to testing construct validity of intrinsic leadership using EFA from 186 data collected from owner-managers of SMEs. The results show that there are twenty-six indicators extracted into eight factors that are intrinsic leadership measurement scale. The third study aims to test empirically or confirm measurement model of intrinsic-leadership using CFA.

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**1. Introduction**

The reason leadership topics are important and interesting issue in field of organizational behavior is practical problems that arise in an organization, such as changes in business environment, emergence of global economy, moral and ethical problem, and technological developments (Perin *et al.*, 2007). Besides, there are conceptual problems related to different views of academics regarding how to lead and motivate members to achieve group or organizational goals, and no agreement yet among experts regarding aspects that found in effective-leadership (Kort, 2008). The existing leadership theories only focus on one or several aspects of the physical, mental, or emotional elements in human interaction in organizations, and ignore spiritual component (Fry, 2003). The last leadership concept developed was authentic leadership which has not fully reflected a holistic perspective of leadership because the spiritual component has not explored yet as an instrument (see Avolio *et al.*, 2004; Gardner *et al.*, 2005; Wong *et al.*, 2010; Wright, 2015; Sidani & Rowe, 2018). Authentic leadership research that had done in its operation has not integrated spiritual aspect as measurement scale (see Walumbwa *et al.*, 2010; Wooley *et al.*, 2011; Hmieleski *et al.*, 2012; Caza *et al.*, 2013; Kiersch & Byrne, 2015; Liu *et al.*, 2015; Regan *et al.*, 2016; Weiss *et al.*, 2018). Whereas analysis of the importance of spiritual influence on organizational outcomes (see Altaf & Awan, 2011, Kazemipour *et al.*, 2012; Mousa & Alas, 2016; Soha *et al.*, 2016; Pawar, 2017; Garg, 2018; Haldorai *et al.*, 2020) show significant role of spiritual aspects in leadership.

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The meaning of authenticity and spirituality refers to constructs related to the self (Avolio & Gardner, 2005; Gardner *et al.*, 2005; Shamir & Eilam, 2005; Kolodinsky *et al.*, 2008; Ashmos & Duchon, 2000). A historical review about the meaning of authenticity and spirituality, both philosophically and psychologically, basically refers to the question “who am I” which by Myer (2009) concerns self-concept. Ryan and Deci (2017) stated that self-concept is individual autonomy needs that comes from intrinsic. The results of research on effect of authenticity and spirituality applied by leaders show a positive energy aura from organizational environment (Toor & Ofori, 2009; Fry, 2008; Gotsis & Kortezi, 2008).

Review of influence of spirituality and authenticity is present in leaders inspires development of leadership model that includes dimensions of spirituality and authenticity. Intrinsic as a concept and if its meaning is explored both philosophically and psychologically refers to synthesis of the meaning of spirituality and authenticity. The purpose of this article is to discuss scale development of intrinsic leadership and testing its validity. Three studies conducted to fulfill this objective, the first study aimed at developing intrinsic-leadership measurement scale based on a deductive approach and at a time testing content validity to scale that had developed. The second study intends to test construct validity of intrinsic leadership using EFA. The third study aims to test intrinsic-leadership measurement model with CFA.

## 2. Theoretical foundation

### 2.1 Authenticity

The historical meaning of philosophy authentic as ethical option is winning self where authenticity is used as expression of one's psychological well-being and ability to balance personal and public interests (Novicevic *et al.*, 2006). Authentic psychological meaning is defined as personality or trait and individual identity (Novicevic *et al.*, 2006). The meaning of authentic psychological is related to psychological state and human personality (Quatro, 2007) that differentiates between individuals, as seen from the concept of self-awareness, self-reference, and self-determination when individual behaves and makes decisions against relational choices himself (Kernis, 2003). The meaning of authentic psychological operationalized is in the form of cognitive, behavioral, and relational aspects (Goldman & Kernis, 2002).

### 2.2 Spirituality

Spirituality is inner life of a person in maintaining and being nurtured by meaningful work that occurs in the context of the community (Ashmos & Duchon, 2000; Gupta *et al.*, 2014). Spirituality is related to values, beliefs, attitudes, and emotions that influence, as well as awareness of integrating life in the process of self-transcendence to achieve highest achievements as humans and individuals in specific environments (Krishnakumar & Neck, 2002). Spirituality is manifested in coherence and congruence between authentic parts of personal and professional life with personal-values (Giacalone & Jurkiewicz, 2003), and ability to present oneself as a whole in work (Gotsis & Kortezi, 2008).

### 2.3 Intrinsic Concept

The meaning of intrinsic philosophical implies value from within itself that is a virtue and cannot be derivate (Aristotle, 1985) values of benevolence based on one's conscience, as a source of goodness, where other good values are contained in the intrinsic goodness value. Intrinsic meaning is very close to conscience means that contains understanding as sincere and deepest heart that gets light from God (Aristotle, 1985; Kant, 1981). The intrinsic psychological meaning can be traced from cognitive evaluation theory, self-teleonomic theory, and self-identity theory (Waterman *et al.*, 2003).

## 3. Development of Intrinsic Leadership Concept and Scale

Development of a measurement scale is a foundation that makes it easier for researchers to conduct repeat research in the future in the field of organizational science (Wright *et al.*, 2017). Fig. 1 illustrates development of intrinsic leadership measurement scale using deductive approach that uses classification framework of previously existing theories (Hinkin, 1995). Development of concept of intrinsic-leadership is based on a philosophy of holistic leadership thinking where leaders integrate physical, mind, heart (feelings and emotions), and spirit (Moxley, 2000). This rationale becomes foundation in reviewing previous leadership theories that leads to understanding of concept of spirituality and authenticity. Comprehension of the meaning of authenticity and spirituality is based on using construct of self-concept, intrinsic motivation, and self-theory (Duchon & Plowman, 2005; Gardner *et al.*, 2005; Ilies *et al.*, 2005). Self-concept emphasizes knowledge as a cognitive dimension, as well as self-control and belief as an affective dimension where this dimension is an individual's strong desire to carry out self-monitoring function, and at the same time it is an autonomous need that comes from intrinsic (Ryan & Deci, 2017).

Referring to the intrinsic meaning both philosophically and psychologically, when leader's behavior is based on intrinsic, leader feels appealing and enjoyable experience when carrying out leadership roles and functions, feels competent and is able to determine direction of his work life (Ryan & Deci, 2017). Activities carried out by intrinsic leaders have meaning when leader chooses and determines his own activities in accordance with the values of goodness that exist in him, and when he feels competent in carrying out these activities (Waterman *et al.*, 2003).

Intrinsic leader, if it is associated with self-teleonomic theory, is when leader's activities is driven by flow experiences, leader develops autotelic personality characterized by carrying out work activities based on leader's conscience and solely to achieve of goodness, purpose and or meaning from within itself as the primary goal (Csikszentmihalyi, 2013), involves all the resources owned in totality, high concentration, and high self-awareness, attention to optimal use of time, and always do self-monitoring and supervision of activities undertaken (Nakamura & Csikszentmihalyi, 2009). The manifestation of autotelic personality and full involvement of intrinsic leader is willingness to sacrifice self to achieve goals and performance; at the same time, it creates feeling of sincerity (Csikszentmihalyi, 2013). Activities carried out are in a state of flow if these activities are freely chosen. This shows that intrinsic leaders have confidence that they can determine what they want to do and what they want to achieve (Ryan & Deci, 2017).

Intrinsic concept is rooted in the study of self-identity which is personal expression (Ilies *et al.*, 2005). Personal expression of intrinsic leader that fosters eudaemonic well-being occurs when intrinsic-leader feels intensive involvement with his actions and life (Waterman *et al.*, 2003), feels peak of appealing experiences, motivation, and pleasure while carrying out his activities, and enjoys work activities per values of life (Ilies *et al.*, 2005). Therefore, eudaemonic well-being is reflection of self-realization, personal growth, self-expression, and realization of true nature of leaders (Ilies *et al.*, 2005). Eudaemonic is achieved when leader has feeling of self-acceptance, can manage life and environment around him effectively, has a clear purpose in life, developing positive relationships with other individuals, doing personal growth, and determining for yourself what to do or have self-autonomy (Waterman *et al.*, 2003).

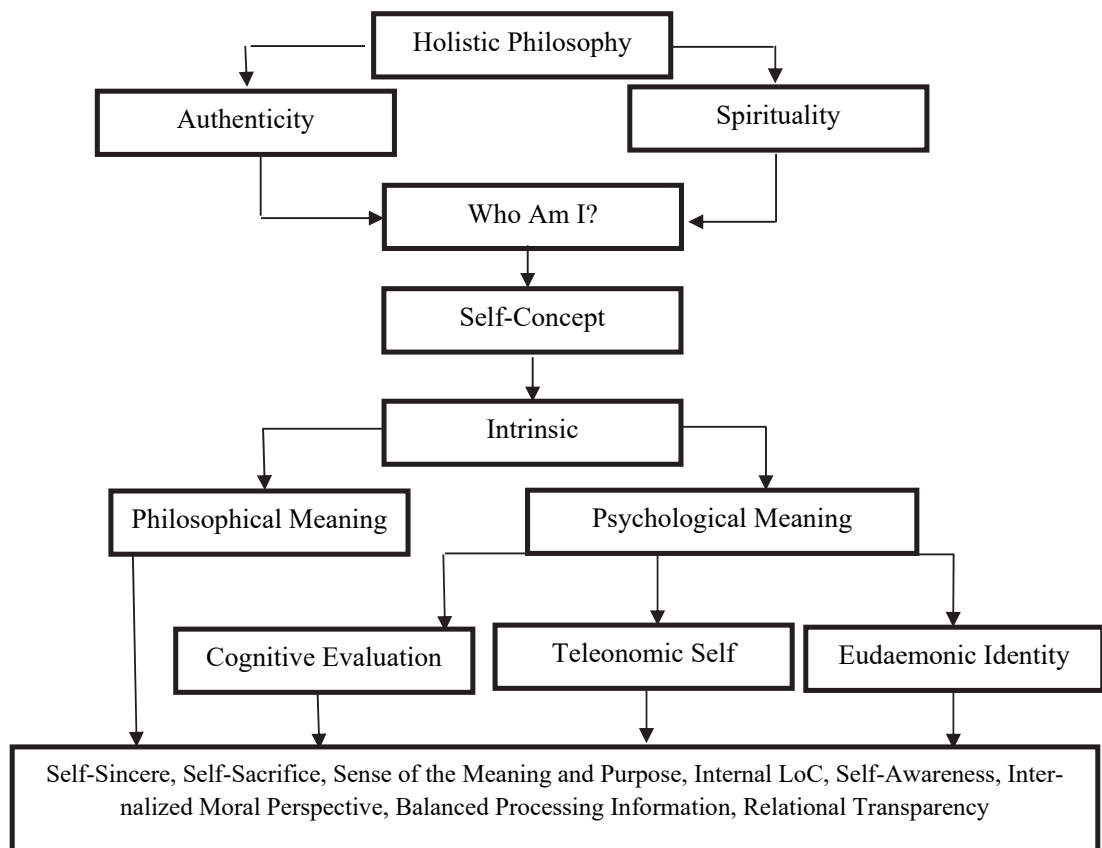


Fig. 1. Deductive Approach to Intrinsic Leadership Scale Development

### Study 1: Content Validity Testing

There are two stages in testing content validity, instrument development and judgment (Shrotryia & Dhanda, 2019). The aim is to ensure determining and quantifying of content validity during instrumentation process.

#### Stage 1: Instrument Development

The first stage of instrument development is performed in three steps—identifying content domain, generating sample items, and constructing instrument (Zamanzadeh *et al.*, 2014; Shrotryia & Dhanda, 2019). The content domain of construct is identified by literature review, content analysis, and/or by conducting in deep interviews with experts. To determine content domain of intrinsic leadership an extensive review of literature was conducted. Based on an in-depth study of the theories that underlie, 31 items were generate which are indicators of intrinsic leadership (Table 1).

**Table 1**  
**Blueprint of Intrinsic Leadership Scale**

Aspect	Items
Self Sincere	1 The leader shows selfless work determination
	2 The leader shows willingness to accept, never blames any situation and condition at hand
	3 The leader carries out all duties and responsibilities of his leadership solely for the belief of serving God
Self Sacrifice	4 Leaders are committed to actualizing their potential in all aspects of life in their organization
	5 The leader has strong feeling of or commitment to helping behavior
Sense of Meaning and Purpose	6 Every job done by leader has meaning
	7 The work done by leader is always directed at the goal because basically, every job has specific purpose
	8 Leaders have the belief that life has meaning and purpose
	9 The leader understands positively or enjoys duties and functions of his leadership
Internal LoC	10 The leader believes that the results obtained are accidental
	11 The leader believes what happens in their life are consequence of their efforts
	12 The leader can control all actions and expected results
	13 The leader have the belief that the outcome is the result of their efforts
Self Awareness	14 The leader is always looking for feedback to improve interactions with others
	15 The leader realizes that he can achieve all the goals set
	16 Leaders can accurately describe how others see their abilities
	17 The leader shows that he understands his strengths and weaknesses
	18 Leaders have self-awareness
	19 The leader is well aware of the impact he has on others
Internalized Moral Perspective	20 The leader shows consistency between actions and beliefs
	21 Leaders make decisions based on a conviction
	22 The leader encourages everyone to have the courage to express their opinion
	23 The leader's actions conform to his internal moral standards
Balanced Processing Information	24 Leaders analyze relevant data before making decisions
	25 Leaders try to seek or gather information about the views or opinions of people who wisely reject their leadership position
	26 Leaders try to listen carefully to the different points of view that occur between people before making decisions
Relational Transparency	27 The leader describes in detail what this means
	28 The leader is willing to admit the mistakes he made
	29 Leaders can align their responsibilities with society and their subordinates
	30 Leaders share information transparently with their subordinates
	31 The leader expresses his ideas clearly to his subordinates

### Stage 2: Judgment

The second stage of judgment involves confirming items by specific number of experts to ensure content validity of instrument. The criteria people are said to be experts in this study are people who have been and or are currently in leadership positions, people who have studied leadership and spirituality, people who have researched the topic of leadership and or spirituality, and or people who have had some contact with leadership and spirituality. This study collaborated with eight experts in accordance with Polit and Beck (2006) opinion that the minimum number of experts is three and not more than ten people. The expert panel was then asked to give their professional subjective judgment on the items of each dimension of construct. The expert judgment data is then calculated CVI (Content Validation Index) and Kappa Statistics (Shrotryia & Dhanda, 2019). CVI scores are calculated for all items in the scale (referred to as I-CVI), as well as for the overall scale (called S-CVI) (Polit *et al.*, 2007). To calculate item-level CVI (I-CVI), experts rate the relevance of each item, usually on a 4-point scale; 1 = irrelevant, 2 = somewhat relevant, 3 = quite relevant, 4 = highly relevant. Then the I-CVI is calculated as the number of experts who gave a good rating of 3 or 4, divided by the number of experts as the proportion of agreement on relevance, and the minimum I-CVI value must be 0.8 (Polit *et al.*, 2007). Kappa coefficient ensures better understanding of content validity as it removes any random chance agreement. Kappa statistics is a consensus index of inter-rater agreement that supplements CVI to ensure that the agreement among experts is beyond chance. Computation of Kappa Statistic requires the calculation of probability of chance agreement, that is,  $P_c = [N! / A! (N - A)!] \times 0.5N$ . In this formula, N = number of experts in the panel, A = number of experts in the panel who agree that the item is relevant. Kappa statistic is then calculated as  $K = (I-CVI - P_c) / (1 - P_c)$ . Evaluation criteria for Kappa is that values above 0.74, between 0.6 and 0.74, and the ones between 0.4 and 0.59 are considered to be excellent, good, and fair, respectively (Zamanzadeh *et al.*, 2014; Shrotryia & Dhanda, 2019).

The Content Validity Index (CVI) shows index of expert judgment related to content-domain relevance of intrinsic leadership construct. The results of CVI calculations, either item-based (I-CVI) or overall scale (S-CVI/Ave) show value > 0.80 (Table 2). Items with an I-CVI of 0.88 indicate that there is one expert who states that the item is less or irrelevant, while when I-CVI value is 1, it means that all experts that sampled, state that these items are relevant or highly relevant to content domain of intrinsic leadership. Therefore, because the value of I-CVI and S-CVI > 0.80, measurement scale of intrinsic leadership fulfilled content validity requirements (Polit *et al.* 2007). The results of the kappa statistical calculation show that all items are range from 0.876 to 1.00 (Table 2) reflected agreement among raters regarding their inclusion in the construct of intrinsic leadership.

**Table 2**  
I-CVI and Kappa Statistic Measurement Scale

Construct	Item	Expert								Σ Agree	I-CVI	Pc	Statistics
		1	2	3	4	5	6	7	8				
Sincerity	1	√	√	√	√	√	-	√	√	7	0.88	0.03125	0.876
	2	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
	3	√	√	√	√	-	√	√	√	7	0.88	0.03125	0.876
Self-sacrifice	4	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
	5	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
Sense of Meaning and Purpose	6	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
	7	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
	8	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
Internal LoC	9	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
	10	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
	11	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
Self Awareness	12	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
	13	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
	14	√	√	√	√	√	-	√	√	7	0.88	0.03125	0.876
Internalized Moral Perspective	15	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
	16	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
	17	√	√	√	√	√	-	√	√	7	0.88	0.03125	0.876
	18	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
	19	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
Balanced Processing Information	20	√	√	√	√	√	-	√	√	7	0.88	0.03125	0.876
	21	√	√	√	-	√	√	√	√	7	0.88	0.03125	0.876
	22	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
	23	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
Relational Transparency	24	√	√	-	√	√	√	√	√	7	0.88	0.03125	0.876
	25	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
	26	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
Internalized Moral Perspective	27	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
	28	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
	29	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
	30	√	√	√	√	√	√	√	√	8	1.00	0.00390625	1.00
	31	-	√	√	√	√	√	√	√	7	0.88	0.03125	0.876
<b>S-CVI (Average I-CVI)</b>											0.969		

**Study 2: EFA Testing**

*Sample and Procedure*

The sample size of construct validity testing was 186 owner-managers of SMEs in various business sectors consisting of 132 men and 54 women. The sample size meets the minimum limit of 6 times 31 (the number of measurement scale indicators of intrinsic leadership that meet the content validity in study 1 which are presented in Table 1) (Gable *et al.*, 2013). Respondents are asked to provide answers from range 1 strongly disagree to 5 strongly agree to the questions given. We have also examined the construct validity of this study using Exploratory Factor Analysis (EFA) with Principal Component Analysis (PCA) method. Exploratory factor analysis is multivariate statistical methods used to identify the smallest number of hypothetical constructs that can parsimoniously explain covariance between a series of variables measured (also called manifest variable) (Watkins, 2018).

*Result*

Factor analysis testing with EFA must fulfill several assumptions, and if the assumptions have not been met, then it must be retested until the assumptions are fulfilled perfectly. In this research, at least three retests were carried out to obtain criteria that met the assumptions. Table 3 shows the assumptions requirements in the exploratory factor analysis test and the results.

**Table 3**  
Result of Assumption EFA

No	Assumption	Criteria	Result	Evidence
1	Determinant of Correlation Matrix	Close to 0	.000	There is a strong correlation between indicators or items.
2	Kaiser Meyer Olkin Measure of Sampling	Close to 1 or >.50	.806	The sum of squares of the partial correlation coefficients among all indicator pairs is small when compared to the sum of squares of the correlation coefficients
3	Bartlett Test of Sphericity	0.000	.000	Significant correlation among indicators or manifest variables
4	Measure Sampling Adequacy (MSA)	>.50	>.50	Partial correlation between manifest variables by assuming the other variables are constant, must be small. This is fulfilled when have to delete items number 8, 9, 10, 15, and 18
5	Communalities	>.50	>.50	Indicators can explain factors greater than 0.50

When all factor analysis assumptions are met and without including items number 8, 9, 10, 15, and 18 (there are 26 indicators), then it can be continued with identifying the number of factors and their extraction (Furr & Bacharach, 2013). Factors are unobservable variables that are manifested in differences in scores obtained on the measured variable (Brown, 2015; Watkins, 2018). By using Eigenvalues greater 1 to evaluate the number of dimensions (Furr & Bacharach, 2013) the results show that there are eight factors that can represent manifest variables. Factor 1 is able to explain the variance of 23.794%; factor 2 of 8.190%; factor 3 is 6.198%, factor 4 is 5.276%, factor 5 is 4.855%, factor 6 is 4.420%, factor 7 is 4.291% and factor 8 is able to explain the variance of 4.191%. Thus, a total of eight factors that were formed were able to explain the intrinsic leadership construct of 61.215% (table 4).

Rotation of factors with using varimax procedure is done because the intrinsic leadership scale being developed is multidimensional (Furr & Bacharach, 2013). The relationship between manifest variable and factor is stated by factor loading (Furr & Bacharach, 2013). The magnitude of factor loading indicates degree of correlation between manifest variable and factor where value of factor loading is greater (close to  $-1$  or  $+1$ ) indicates a stronger correlation between manifest variable and factor. Specifically, if the factor loading value is above 0.30 or 0.40, it is often considered quite strong, and a factor loading of 0.70 or 0.80 is considered very strong (Furr & Bacharach, 2013).

Table 4 shows the results of factor loading manifest variables on the intrinsic leadership measurement scale. Indicators 1, 2, and 3 have a loading factor of  $>.40$  so it can be concluded that manifest variables have quite strong correlation with sincerity factor. Indicators 4 and 5 have loading factors of  $>.80$  so correlation between manifest variable and self-sacrifice factor is very strong.

**Table 4**  
Result of Exploratory Factor Analysis

Aspect	Indicator	Component							
		1	2	3	4	5	6	7	8
Sincerity	1	.485							
	2	.460							
	3	.693							
Self-Sacrifice	4		.856						
	5		.843						
Sense of Meaning and Purpose	6			.673					
	7			.701					
Internal LoC	11				.679				
	12				.475				
	13				.631				
Self-Awareness	14					.554			
	16					.461			
	17					.648			
	19					.663			
Internalized Moral Perspective	20						.758		
	21						.629		
	22						.707		
	23						.549		
Balanced Processing Information	24							.510	
	25							.611	
	26							.789	
Relational Transparency	27								.648
	28								.676
	29								.619
	30								.667
	31								.501
<b>Eigenvalues</b>		6.186	2.129	1.612	1.372	1.262	1.149	1.116	1.090
<b>% variance</b>		23.794	8.190	6.198	5.276	4.855	4.420	4.291	4.191
<b>Sum of Items</b>		3	2	2	3	4	4	3	5

Indicators 6 and 7 with factor loading value of 0.673 and 0.701 represent sense of meaning and purpose factor. Factor loading indicators 11, 12, and 13 are above 0.40 and have a fairly strong correlation with internal LoC factor. Indicators 14, 16, 17, and 19 with factor loading values above 0.4 means that indicators have a fairly strong correlation with the self-awareness factor. Factor of internalized moral perspective is reflected with indicators 20, 21, 22 and 23 since they have factor loading value above 0.5 and 0.7. Balanced processing information factor is reflected by indicators 24, 25 and 26 with factor loading values above 0.50 means that they've strong correlation with this factor. Relational transparency factor is reflected by indicators 27, 28, 29, 30, and 31, with the characteristics of a strong enough correlation between indicators and factor since it has a factor loading above 0.50. Thus, it can be said that the eight factors formed can summarize the twenty-six manifest variables accurately.

### Study 3: CFA Testing

#### Sample and Procedure

Data were taken from 185 SMEs owner-managers in various business sectors using an intrinsic leadership measurement questionnaire that had been tested by EFA, totaling 26 items. The sample consisted of 135 males and 50 females. Testing intrinsic leadership measurement model using CFA that is designed to test measurement dimensions when the developer of measurement scale has clear expectations about the number of factors or dimensions underlying the measurement items, correlation between items and factors, and correlation between factors (Furr & Bacharach, 2013). The information obtained from the CFA is directly related to the internal structure of the measurement, can also be used to test the internal consistency of a set of measurements and can be used to evaluate convergent and discriminant validity. CFA in this study used PLS-SEM with the help of WarpPLs 4.0 software.

The intrinsic leadership measurement model is hierarchical multidimensional as the higher order construct. The process of measuring the variables use second order construct Type II, which is reflective in the first order model, and formative in the second order model. The two-stage method is carried out by evaluating the outer model for the first order construct (stage 1) then evaluating the inner model for the second order construct (stage 2).

#### Result

Convergent validity is the extent to which a measure correlates positively with alternative measures of the same construct (Hair *et al.*, 2017). To evaluate convergent validity of reflective construct of intrinsic leadership, we considered factor loading of indicators and the average variance extracted (AVE). Table 5 shows loading values for all construct indicators of sincerity, self-sacrifice, sense of meaning and purpose, internal LoC, self-awareness, internalized moral perspective, balanced information processing, and relational transparency all greater than 0.70 with a p-value. <0.05; and all AVE values>0.50. Since all loading values greater than 0.70 with a p-value <0.05 and all AVE values>0.50, it can be concluded that all indicators have met the criteria for the assessment of convergent validity(Hair *et al.*, 2017).

**Table 5**  
Result of Reflective Constructs CFA

	Formative Measurement	Reflective Measurement	Factor Loading	AVE	Reliability	
					Composite Reliability	Cronbach Alpha
Intrinsic Leadership	Sincerity	1	0.895	0.859	0,894	0,821
		2	0.891			
		3	0.786			
	Self-Sacrifice	4	0.908	0.908	0,904	0,787
		5	0.908			
	Sense of meaning and Purpose	6	0.904	0.904	0,899	0,775
		7	0.904			
	Internal LoC	8	0.786	0.826	0,882	0,798
		9	0.883			
		10	0.863			
	Self-Awareness	11	0.801	0.822	0,895	0,844
		12	0.801			
		13	0.865			
		14	0.833			
	Internalized Moral Perspective	15	0.785	0.852	0,893	0,840
		16	0.804			
		17	0.842			
		18	0.855			
	Balanced Processing Information	19	0.879	0.821	0,888	0,811
		20	0.827			
		21	0.850			
	Relational Transparency	22	0.811	0.845	0,912	0,879
		23	0.838			
		24	0.810			
		25	0.835			
		26	0.809			

Reliability is a test consistency of internal measurement items in measuring constructs. Reliability testing can be done by two methods, composite reliability and Cronbach alpha. Table 5 shows that the composite reliability and Cronbach alpha value must be greater than 0.70 to have met internal consistency (Hair *et al.*, 2017).

Assessment of formative constructs is accomplished by looking at the VIF value which is an indicator to see whether or not there is a collinearity problem between constructs. The recommended VIF value is <5 (Hair *et al.*, 2017). Table 6 shows the

VIF value for each construct of the intrinsic leadership is less than 5, which means there is no collinearity problem between these constructs. The p-value shows significant results for all constructs of sincerity, self-sacrifice, sense of meaning and purpose, internal LoC, self-awareness, internalized moral perspective, balanced information processing, and relational transparency which indicate that these constructs prove significant as forming intrinsic leadership.

**Table 6**  
Result of Formative Constructs CFA

	Second Order Construct (Formative)	VIF	p-value <i>indicator weight</i>
Intrinsic Leadership	Sincerity	2.201	0.009
	Self-Sacrifice	2.602	0.007
	Sense of Meaning and Purpose	2.683	0.006
	Internal LoC	2.323	0.008
	Self-Awareness	2.918	0.005
	Internalized Moral Perspective	2.615	0.007
	Balanced Information Processing	2.636	0.006
	Relational Transparency	2.823	0.006

#### 4. Discussion

Intrinsic leadership is a new concept of leadership developed in this study. The formulation of the right items to represent the construct is the most important issue in developing a questionnaire scale (Wright *et al.*, 2017). The intrinsic leadership scale is useful to operationalize the construct and therefore must be based on theory development in depth (Wright *et al.*, 2017). Critical analysis of intrinsic meaning reduces the construct of sincerity, willingness to sacrifice, sense of meaningful work and purpose, internal locus of control, self-awareness, internalization of moral perspectives, balance of information processes and relational transparency.

The results of the study 1 show that all indicators have met content validity, which means that there is a high relevance to the content domain of intrinsic leadership. The results of the EFA and CFA testing on intrinsic leadership show that intrinsic leadership consists of eight dimensions where each of these dimensions is a formative measurement scale of intrinsic leadership. Each factor forming intrinsic leadership is measured by several items which are reflective measurements scale and show a high degree of correlation between items and have high internal consistency

Intrinsic leaders are leaders who have sincerity as a form of honesty in doing something for others, willingness, acceptance of certain situations and concepts in life that are only oriented to inner well-being. Sincerity is defined as integrity in providing help, willingness and acceptance (Corey, 2005). Intrinsic leaders show a willingness to sacrifices by ignoring personal interests to improve subordinate relationships and well-being, and also shown by a strong commitment (Rahman & Reynold, 2016).

Intrinsic leadership has a sense of purpose and meaningful work which is part of the meaning of life, fundamental construct of human condition and core aspects of Positive Psychology (Schulenberg & Melton, 2010). Leaders who experience meaning in life are better equipped to successfully overcome challenges in life both in their personal and work lives, and they have a strong sense of autonomy, self-determination, and purpose in life (Marco *et al.*, 2015).

Intrinsic leadership is type of leadership that has internal locus of control. They believe that success and failure depend on how much effort is invested (Hsiao *et al.* 2015) and that their actions affect rewards or outcomes (Asante & Affum-Osei, 2019). Thus, they are more likely to believe in their skills, efforts, and abilities. Consequently, an intrinsic leader tends to face challenges and obstacles positively, solve problems by finding constructive solutions (Luthans *et al.*, 2006) and they are more willing to learn and improve their abilities and knowledge when faced with challenges (Hsiao *et al.*, 2015).

Self-awareness is construct of intrinsic leadership, intrinsic leaders are aware of how they respond to different situations, realize their impact on others, and understand human interactions and the role of their behavior in obtaining effective results (Vohra *et al.*, 2015; Lawrence *et al.* 2018). With greater self-awareness, intrinsic leaders can be more motivated to explore situations that empower their strengths and experiences that help meet their developmental needs (Lawrence *et al.*, 2018).

Internalization shows the extent to which moral traits are at the core of self-concept (Skubinn & Herzog, 2014) and is a dimension of definition of moral identity which should be expressed openly (symbolization) in the form of commitment and self-consistency to always provide encouragement moral action (Shao *et al.*, 2008). The internalization process occurs when activities carried out have meaning and are in accordance with the values, commitments and interests of many people (Vansteenkiste *et al.*, 2018). Intrinsic leaders are leaders who carry out the process of internalizing and symbolizing moral standards which become their moral identity in decision making that involves the interests of many people.

Information processing balance is intrinsic aspect of leadership. Balance of information processing includes collect information, review and interpret information, and make decisions based on that information regardless of their personal tendencies, assumptions or points of view, and demonstrate both their integrity and ability to separate themselves from the processes



and results inherent in decision making (Atwijuka & Caldwell, 2017). The final construct of intrinsic leadership is relational transparency. Intrinsic leaders have honesty in building relationships with other people. They have a match between the original nature of the leader and the actual behavior in dealing with others. Intrinsic leaders demonstrate their internalized moral and ethical values, and their behavior reflects the underlying beliefs without attempts to provide a false or deceptive picture of who they are and what they believe (Atwijuka & Caldwell, 2017).

## 5. Conclusion

Intrinsic leadership is a leadership concept that is formed from eight constructs classified into two dimensions of spirituality and authenticity. The dimension of spirituality is more related to the inner life of the leader, while authenticity is more related to the personality traits that become one's identity. Sincerity, willingness to sacrifice, a sense of meaning and purpose, and sources of internal locus of control are reflections of spirituality while the dimensions of authenticity are reflected in self-awareness, internalized moral perspectives, balanced information processing, and transparent and close relationships with all stakeholders.

The results of this study provide several implications for theory development. First, the results expand existing leadership theory by showing how spiritual and authentic dimensions become the shaping aspects of intrinsic leadership. These findings provide aspects that have not been considered present in previous leadership theories, such as transformational leadership, spiritual leadership, or authentic leadership. Based on the holistic thought philosophy of leadership by integrating spiritual, cognitive, affective, and conative aspects (Moxley, 2000) we offer a new leadership concept intrinsic leadership and also explain the conceptual development mechanism and measurement scale.

The second implication, the resulting measurement model, is expected to be the basis for further studies both theoretically and methodologically in intrinsic leadership research, the variables that affect, and their impact on organizational output. Our findings also open up new directions for theory building with respect to well-being in organizations, by suggesting intrinsic leadership behavior may have important consequences not only for those targeted (i.e., subordinates), but also for those who engage in such behavior. The final theoretical implication, our findings provide an overview of the study of developing measurement scales a new concept in the field of behavioral science as described by Wright *et al.* (2017). Although they do not absolutely follow all stages of scale development according to them, at least it can be scientifically accounted for in relation to the development process. Our findings support the opinion of Quatro (2007) that an effective leader is a leader who has and integrates cognitive, emotional (affective), conative, and spiritual abilities. According to him, the integration of the four key elements of the leader's domain is able to direct the achievement of organizational goals, be able to balance various interests, and be able to overcome various organizational problems. Authenticity and spirituality help leaders maintain their mental health and thus protect their work environment from adverse effects. If the leaders can maintain their mental well-being by acting on their own fundamental beliefs, it is likely to produce a positive contagion among followers (Sy, Côté, & Saavedra, 2005).

The limitation of this research is that intrinsic leadership is a novelty theory of leadership, so there is no proof of this concept. This study also did not include testing the discriminant validity and nomological validity with concepts in the field of organizational behavior. It is important to carry out future research to prove that intrinsic leadership is different from previous concepts or theories of leadership such as ethical leadership, transformational leadership or authentic leadership. Likewise, further evidence is needed related to investigations of antecedent and intrinsic leadership consequences on various organizational outcomes such as commitment, OCB, another positive organizational climate.

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