

Psychometric Properties Evaluation of the TalentDNA Inventory

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Abstract The emergence of ‘talentism’ aligns with positive psychology’s central concern that is what enables individuals and communities to thrive. This study aimed to examine psychometrics properties of the TalentDNA Inventory, particularly its content validity, factorial validity and reliability. This scale consists of three major domains; Drive, Network and Action. A survey was conducted and 1217 responses (n=1217) obtained from Indonesian adults. The obtained findings indicate that this scale exhibits sound psychometrics properties particularly on its content validity, factorial validity and reliability. Results on item level Content Validity Index indicates that the items content are acceptable (I-CVI>0.78) based on the rating given by 10 subject matter experts. Confirmatory Factor Analysis (CFA) result also indicated that this scale possesses a stable three-factor structure with two underlying sub-factors for each factor. In terms of reliability, findings indicated that reliability for each domain, sub-domain and the overall scale are acceptable and good with Cronbach’s alpha values above .80. Therefore, this TalentDNA Inventory is valid, reliable and suitable to be used by adult group.

Keywords Talent Assessment, Talentism, Construct Validity, Psychometrics, Positive Psychology

1. Introduction

According to the World Economic Forum’s Future of Jobs Report 2025, talent management is projected to become a significantly more critical skill in the workplace by 2030 [1]. This projection reflects a broader transformation in how organizations conceptualize their workforce—not merely as a source of labor, but as a strategic asset whose development, engagement, and retention are central to long-term competitiveness. Within this evolving landscape, the concept of talentism emerges as an economic paradigm in which human talent constitutes the primary source of value creation. This paradigm can be productively interpreted through the theoretical lens of positive psychology, a field grounded in the scientific study of human strengths, well-being, and optimal functioning. Positive psychology offers a compelling framework for understanding why talent, rather than financial capital or industrial assets, has become the most significant economic resource in the modern era.

From a positive psychology perspective, talentism is fundamentally aligned with the assumption that individuals

possess unique strengths that, when effectively cultivated, contribute not only to personal fulfillment but also to collective flourishing. Human talent is increasingly conceptualized as a multidimensional construct encompassing innate capacities, developed strengths, and the potential for exceptional performance across specific domains. Scholars generally conceptualize talent as an interplay between genetic predispositions, environmental influences, and intentional practice, rendering it both inherent and malleable. Contemporary research further emphasizes that this malleability is increasingly shaped by talent ecosystems rather than isolated individual effort [2], while the potential for exceptional performance is progressively linked to individual capability within organizational contexts [3]. Consequently, the interaction between genetic predisposition and environmental influence is no longer viewed as a static developmental process but as a dynamic requirement for organizational resilience, positioning talent as a sustainable resource that must be continuously recalibrated to meet the demands of a rapidly evolving global market.

Extending beyond traditional cognitive metrics, talent is often conceptualized as a dynamic and multidimensional construct that incorporates creative problem-solving and socio-emotional competencies [4]. From a psychological

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standpoint, the transition from innate potential to domain-specific excellence is contingent upon an interactionist approach, wherein sustained engagement is facilitated by supportive ecological contexts and the availability of systemic capital [5]. This developmental trajectory is further optimized when individuals are able to leverage their signature strengths, as research in positive psychology suggests that the behavioral expression of these strengths serves as a primary catalyst for achieving psychological well-being and academic or professional excellence [6]. Accordingly, talent is no longer understood as a fixed trait but as an emergent property of the person–environment fit, requiring a synergistic alignment between individual aptitudes and systemic opportunities for refinement.

Consistent with this view, current literature decisively moves away from static conceptions of ability, emphasizing instead that talent development is heavily reliant on ecological support systems. Developmental models highlight that talent evolves through deliberate practice, meaningful feedback, mentoring, and environmental enrichment. Access to resources, quality instruction, and psychologically supportive environments play a critical role in transforming latent potential into demonstrated competence. Empirical evidence further suggests that an individual’s capacity to develop is strongly bounded by access to educational and social capital, such that, in the absence of psychologically safe and resource-rich environments, innate potential is likely to remain dormant [7]. Therefore, talent is best understood as a dynamic and context-dependent phenomenon shaped by the continuous interaction between individual characteristics and ecological conditions.

Importantly, the nature of human talent extends beyond measurable technical abilities. Increasingly, research asserts that talent is predicated less on fixed technical intelligence and more on a robust architecture of non-cognitive attributes, including resilience, curiosity, and intrinsic motivation [8]. These attributes not only enable individuals to perform effectively but also sustain engagement, adaptability, and long-term success in both academic and professional domains.

Understanding talent through this broader lens has significant implications for education, leadership, and public policy, challenging institutions to move beyond narrow definitions of ability and adopt strengths-based approaches that recognize and cultivate diverse forms of human potential. By prioritizing the development of diverse human capabilities and character strengths, societies enhance individual flourishing while simultaneously building the psychological capital necessary for collective innovation and societal advancement in an increasingly complex global economy [9].

Within this strengths-based paradigm, psychologists [10] introduced the VIA (Values in Action) framework to conceptualize character strengths. The VIA framework defines human character as the moral dimension of individual functioning, distinguishing it from temperament or cognitive ability. It is grounded in several key assumptions: character

strengths are morally valued and socially beneficial, exhibit relative stability over time while remaining open to development, and are distinct from talents and abilities in that they reflect how individuals act rather than how well they perform.

These assumptions position character strengths as foundational psychological resources that underpin ethical behavior, resilience, and well-being. By focusing on what is best in people rather than their deficits, the VIA framework provides a shared language for understanding and cultivating human goodness, reinforcing the conceptual alignment between talentism and positive psychology.

2. Materials and Methods

2.1. Participants

Respondents consisted of 1217 adults ($n=1217$) from Indonesia, whose age ranging from 45 to 60 years old, with $M=49.9$ and $SD=3.7$. With regards to educational background, majority were bachelor degree holders (36.5%), followed by masters’ degree holder (21.2%), senior high schools (12.3%) and others (30%).

2.2. Measure

TalentDNA Inventory is an inventory developed to reveal an individual’s talents particularly the natural talents and behavioural tendencies. While other conventional inventories mostly focus on acquired traits, competencies, or learned skills, TalentDNA emphasizes the identification of innate strengths that constitute the core “DNA” of human behaviour, which consistently shapes how individuals think, feel, and act across contexts. This instrument organizes human talents into three primary domains (D-N-A): Drive, Network and Action.

Drive domain reflects individuals’ intrinsic motivations and inner forces that propel individuals toward goals and aspirations. It consists of two sub-domains; achieving and understanding. Achieving-drive consists of seven facets which are competitive, directive, goal-getting, optimiser, perfectionist, confidence and significance. Understanding-drive consists of eight facets which are aversive, collector, contemplative, equitable, explorer, noble, vigorous and visionary. Each of them consists of four items.

The Network domain describes individuals’ interpersonal capacities that influence how people build, maintain, and nurture social relationships. It consists of two sub-domains: influencing and relating. Influencing encompasses seven facets, namely advisor, articulative, collaborator, courageous, convincing, developer, and energiser, which reflect tendencies related to interpersonal influence, communication, and social leadership within group contexts. Meanwhile, relating consists of eight facets, namely affectionate, caring, forgiving, generous, genuine, harmony, personaliser, and sociable, which capture relational orientations associated with emotional connection, empathy, and the maintenance of positive and

harmonious social interactions.

Action domain defines individuals' cognitive and problem-solving orientation tendencies that guide how individuals process information and transform it into decisions or strategies. This domain encompasses two sub-domains; thinking and doing. Thinking-action consists of seven facets; contextual, focused, intuitive, innovative, logical, strategist and troubleshooter. Doing-action consists of eight facets which are accountable, authoritative, decisive, fixer, flexible, initiator, resourceful and structured. Each of these facets consist of four items.

Across these three domains, the scale measures 45 talent themes, offering a comprehensive portrait of an individual's unique profile. Test results typically highlight the top 10 most dominant talents, which serve as the person's signature strengths, as well as the bottom 5 talents, which represent areas that may require management rather than improvement.

2.3. Procedure

A convenience sampling technique was employed in this study. Participants were recruited during a public event and were invited to voluntarily participate in the TalentDNA Inventory assessment. Prior to participation, an explanation of the purpose, procedures, and potential benefits of the assessment was provided. Interested participants submitted their email addresses, after which a secure link to the online TalentDNA Inventory was distributed via email. Participants completed the assessment independently at their convenience, with an average completion time ranging from 25 to 35 minutes. Upon completion, respondents received automated individualized feedback in the form of a personalized report summarizing their dominant talent profiles, along with interpretative information intended to facilitate self-reflection and understanding of behavioural tendencies.

3. Results

3.1. Content Validity

Hypothesis 1 aimed to examine content validity of the TalentDNA inventory. Ten (n=10) subject matter experts (SME) were appointed based on their agreement. All of them were psychologists and work either as a practitioner or academicians. In the content validation form, the definition of domain and the items represent the domain are clearly provided. The SMEs were requested to critically review the domain and its items before providing score on each item. They were required to indicate the degree of relevance for each item. The degree was ranged from (1) the item is not

relevant to the measured domain; (2) the item is somewhat relevant to the measured domain; (3) the item is quite relevant to the measured domain and (4) the item is highly relevant to the measured domain. Results on item level Content Validity Index (CVI) indicates that the items content are acceptable ($I-CVI > 0.78$) based on the rating given by the experts. With all CVI values above 0.78, this finding indicates that the items content are valid [11] [12].

3.2. Factorial Validity

Hypothesis 2 aimed to gather evidence on the internal factor structure of the TalentDNA Inventory construct. As outlined in the introduction, confirming factorial validity is essential in testing construct validity because it verifies the conceptual framework of a construct. Specifically, factorial validity examines how well the internal factor structure represents the TalentDNA Inventory construct by assessing whether the measured items load onto their respective domains [13] [14].

The measurement model of TalentDNA Inventory construct was evaluated using Structural Equation Modelling (SEM) with AMOS software through confirmatory factor analysis (CFA). CFA is a statistical tool in SEM used to confirm factor structures that underlie a particular construct [15] [16] [17]. Maximum Likelihood Estimation (MLE) was employed to assess the adequacy of the model as the parcels are generally treated as continuous data [16].

A. Factorial validity of the 'achieving' sub-domain

CFA result on the hypothesized model for achieving sub-domain

The achieving drive sub-domain comprises seven facets namely competitive, directive, goal getting, optimiser, perfectionist, confidence, and significance with each subdomain measured by four items. The CFA results showed adequate support for the hypothesized model, $\chi^2(329) = 2042$, $p = .000$, $\chi^2/df = 6.209$, CFI = .903 and RMSEA = .065. The goodness-of-fit indices of the hypothesized model indicate an acceptable model fit based on certain index; the CFI was higher than .9 [13] [18] and the RMSEA was below than .08 [17]. Furthermore, an examination of the Standardized Regression Weights or loading estimates showed that all of the items had a Critical Ratio bigger than 1.96 ($CR < +1.96$) (ranging from 8.9 to 29.5) indicating that they were significant indicators of the achieving-drive sub-domain [15]. The loading estimates for majority of the items were also larger than .5 signifying that they were satisfactorily related to the measured domain [13]. Refer to Table 1 below for the fit statistics, loading estimates and reliability.

Table 1. The measurement model of 'Achieving' sub-domain: Fit statistics

Item	Sub-domain	Std <i>L</i>	P	Cronbach's <i>α</i> for each sub-domain	Overall Cronbach's <i>α</i>
Comp1	Competitive	.783		.664	.939
Comp2	Competitive	.649	***		
Comp3	Competitive	.662	***		
Comp4	Competitive	.300	***		
Dir1	Directive	.357		.639	
Dir2	Directive	.605	***		
Dir3	Directive	.616	***		
Dir4	Directive	.689	***		
Got1	Goal	.769		.770	
Got2	Goal	.502	***		
Got3	Goal	.770	***		
Got4	Goal	.706	***		
Opt1	Optimiser	.710		.808	
Opt2	Optimiser	.760	***		
Opt3	Optimiser	.644	***		
Opt4	Optimiser	.773	***		
Per1	Perfectionist	.584		.692	
Per2	Perfectionist	.767	***		
Per3	Perfectionist	.833	***		
Per4	Perfectionist	.354	***		
Sel1	Confidence	.716		.764	
Sel2	Confidence	.524	***		
Sel3	Confidence	.803	***		
Sel4	Confidence	.681	***		
Sig1	Significance	.346		.665	
Sig2	Significance	.610	***		
Sig3	Significance	.759	***		
Sig4	Significance	.641	***		

* The first item for each subscale was set to 1.00. All factor loadings were significant at $p < .001$.

B. Factorial validity of the 'understanding' sub-domain

CFA result on the hypothesized model for understanding sub-domain

The understanding drive sub-domain comprises eight facets namely aversive, collector, contemplative, equitable, explorer, noble, vigorous, and visionary with each subdomain measured by four items. The CFA results showed adequate support for the hypothesized model, $\chi^2(436) = 2269.7$, $p = .000$, $\chi^2/df = 5.206$, CFI = .90 and RMSEA = .094. The goodness-of-fit indices of the hypothesized model indicate that this model is statistically fit and acceptable based on

certain index; the CFI was equal to or higher than .9 [13] [18] and the RMSEA was below than .08. The RMSEA value was below than .06 indicating that the model fit is good. Furthermore, an examination of the Standardized Regression Weights or loading estimates showed that all of the items had a Critical Ratio bigger than 1.96 ($CR < +1.96$) (ranging from 7.5 to 32.7) indicating that they were significant indicators of the understanding-drive domain [15]. Majority of the items show loading estimates higher than .50 which indicates a stronger relationship between an observed variable (item) and an underlying latent domain. See Table 2 below for the fit statistics, loading estimates and reliability.

Table 2. The measurement model of ‘understanding’ sub-domain: Fit statistics

Item	Sub-domain	Std <i>L</i>	P	Cronbach’s <i>α</i> for each sub-domain	Overall Cronbach’s <i>α</i>
Avr1	Aversive	.513		.703	.927
Avr2	Aversive	.542	***		
Avr3	Aversive	.670	***		
Avr4	Aversive	.745	***		
Col1	Collector	.785		.773	
Col2	Collector	.517	***		
Col3	Collector	.838	***		
Col4	Collector	.582	***		
Con1	Contemplative	.755		.759	
Con2	Contemplative	.496	***		
Con3	Contemplative	.759	***		
Con4	Contemplative	.691	***		
Equi1	Equitable	.381		.602	
Equi2	Equitable	.323	***		
Equi3	Equitable	.842	***		
Equi4	Equitable	.360	***		
Exp1	Explorer	.310		.613	
Exp2	Explorer	.825	***		
Exp3	Explorer	.433	***		
Exp4	Explorer	.835	***		
Nob1	Noble	.820		.729	
Nob2	Noble	.680	***		
Nob3	Noble	.397	***		
Nob4	Noble	.781	***		
Vig1	Vigorous	.663		.668	
Vig2	Vigorous	.583	***		
Vig3	Vigorous	.575	***		
Vig4	Vigorous	.514	***		
Vis1	Visionary	.718		.715	
Vis2	Visionary	.774	***		
Vis3	Visionary	.592	***		
Vis4	Visionary	.374	***		

* The first item for each subscale was set to 1.00. All factor loadings were significant at $p < .001$.

C. Factorial validity of the ‘influencing’ sub-domain

CFA result on the hypothesized model for influencing sub-domain

The influencing drive sub-domain comprises seven facets namely competitive, directive, goal getting, optimiser, perfectionist, confidence, and significance with each subdomain measured by four items. The CFA results showed adequate support for the hypothesized model, $\chi^2 (329) = 2076.2$, $p = .000$, $\chi^2/df = 6.30$, CFI = .926 and RMSEA = .066. The goodness-of-fit indices of the hypothesized model indicate

that this model is acceptable and fit based on certain index; the CFI was higher than .9 [13] [18] and the RMSEA was below than .08. Furthermore, an examination of the Standardized Regression Weights or loading estimates showed that all of the items had a Critical Ratio bigger than 1.96 ($CR < +1.96$) (ranging from 11.07 to 37.2) indicating that they were significant indicators of the influencing- network subdomain [15]. Majority of the items show loading estimates higher than .50 which indicates a stronger relationship between an observed variable (item) and an underlying latent domain. See Table 3 below for the fit statistics, loading estimates and reliability.

Table 3. The measurement model of ‘influencing’ sub-domain: Fit statistics

Item	Sub-domain	Std <i>L</i>	P	Cronbach’s <i>α</i> for each sub-domain	Overall Cronbach’s <i>α</i>
Adv1	Advisor	.788		.731	.959
Adv2	Advisor	.784	***		
Adv3	Advisor	.321	***		
Adv4	Advisor	.777	***		
Art1	Articulative	.690		.796	
Art2	Articulative	.734	***		
Art3	Articulative	.633	***		
Art4	Articulative	.768	***		
Coll1	Collaborator	.717		.851	
Coll2	Collaborator	.693	***		
Coll3	Collaborator	.850	***		
Coll4	Collaborator	.809	***		
Cor1	Courageous	.768		.785	
Cor2	Courageous	.549	***		
Cor3	Courageous	.724	***		
Cor4	Courageous	.744	***		
Conv1	Convincing	.607		.737	
Conv2	Convincing	.793	***		
Conv3	Convincing	.534	***		
Conv4	Convincing	.607	***		
Dev1	Developer	.821		.880	
Dev2	Developer	.789	***		
Dev3	Developer	.857	***		
Dev4	Developer	.771	***		
Enz1	Energiser	.744		.854	
Enz2	Energiser	.825	***		
Enz3	Energiser	.684	***		
Enz4	Energiser	.853	***		

* The first item for each subscale was set to 1.00. All factor loadings were significant at $p < .001$.

D. Factorial validity of the ‘relating’ sub-domain

Prior to Confirmatory Factor Analysis (CFA), all of the items were exposed to Exploratory Factor Analysis (EFA) to examine items which are highly overlapped or non-significant. The EFA result indicated that item personaliser 4, genuine 2 and affectionate 4 were non-significant due to low loading estimates. Therefore, these three items were excluded for the CFA analysis.

The relating network sub-domain comprises eight facets namely affectionate, caring, forgiving, generous, genuine, harmony, personaliser, and sociable. All subdomains are measured by four items except affectionate, genuine, and personaliser, which are represented by three items.

CFA result on the hypothesized model for relating sub-domain

The CFA results showed adequate support for the hypothesized model, $\chi^2(349) = 1943.9$, $p = .000$, $\chi^2/df = 5.5$, CFI = .92 and RMSEA = .061. The goodness-of-fit indices of the hypothesized model indicate that this model is statistically fit and acceptable based on certain index; the CFI was equal to or higher than .9 and the RMSEA was below than .08 [13] [18]. An examination of the Standardized Regression Weights or loading estimates showed that all of the items had a Critical Ratio bigger than 1.96 ($CR < +1.96$) indicating that they were significant indicators of the relating sub-domain [15]. The CR values were ranging from 5.0 to 38.2. Majority of the items show loading estimates higher than .50 which indicates a stronger relationship between an observed variable (item) and an underlying latent domain. See Table 4 below for the fit statistics, loading estimates and reliability.

Table 4. The measurement model of 'relating' sub-domain: Fit statistics

Item	Sub-domain	Std <i>L</i>	P	Cronbach's α for each sub-domain	Overall Cronbach's α
Aff1	Affectionate	.733		.780	.942
Aff2	Affectionate	.695	***		
Aff3	Affectionate	.798	***		
Car1	Caring	.692		.646	
Car2	Caring	.708	***		
Car3	Caring	.613	***		
Car4	Caring	.338	***		
Forg1	Forgiving	.437		.712	
Forg2	Forgiving	.547	***		
Forg3	Forgiving	.756	***		
Forg4	Forgiving	.722	***		
Gen1	Generous	.717		.731	
Gen2	Generous	.472	***		
Gen3	Generous	.614	***		
Gen4	Generous	.831	***		
Genu1	Genuine	.782		.603	
Genu3	Genuine	.721	***		
Genu4	Genuine	.314	***		
Har1	Harmony	.852		.887	
Har2	Harmony	.831	***		
Har3	Harmony	.737	***		
Har4	Harmony	.849	***		
Pers1	Personaliser	.318		.605	
Pers2	Personaliser	.845	***		
Pers3	Personaliser	.779	***		
Soc1	Sociable	.721		.684	
Soc2	Sociable	.326	***		
Soc3	Sociable	.751	***		
Soc4	Sociable	.826	***		

* The first item for each subscale was set to 1.00. All factor loadings were significant at $p < .001$.

E. Factorial validity of the 'thinking' sub-domain

CFA result on the hypothesized model for thinking sub-domain

The thinking action sub-domain comprises seven facets namely contextual, focused, intuitive, innovative, logical, strategist, and troubleshooter with each subdomain measured by four items. The CFA results showed adequate support for the hypothesized model, $\chi^2(329) = 1690.4$, $p = .000$, $\chi^2/df = 5.13$, CFI = .950 and RMSEA = .058. The goodness-of-fit indices of the hypothesized model indicate that this model is

good and fit based on certain index; the CFI was equal to or higher than .95 and the RMSEA was below than .06 [13] [18]. Furthermore, an examination of the Standardized Regression Weights or loading estimates showed that all of the items had a Critical Ratio bigger than 1.96 ($CR < +1.96$) (ranging from 7.9 to 40.3) indicating that they were significant indicators of the thinking sub-domain [15]. Majority of the items show loading estimates higher than .50 which indicates a stronger relationship between an observed variable (item) and an underlying latent domain. See Table 5 below for the fit statistics, loading estimates and reliability.

Table 5. The measurement model of 'thinking' sub-domain: Fit statistics

Item	Sub-domain	Std L	P	Cronbach's α for each sub-domain	Overall Cronbach's α
Cont1	Contextual	.467		.759	.962
Cont2	Contextual	.883	***		
Cont3	Contextual	.850	***		
Cont4	Contextual	.309	***		
Foc1	Focused	.820		.874	
Foc2	Focused	.839	***		
Foc3	Focused	.842	***		
Foc4	Focused	.694	***		
Int1	Intuitive	.612		.841	
Int2	Intuitive	.754	***		
Int3	Intuitive	.854	***		
Int4	Intuitive	.851	***		
Ino1	Innovative	.817		.849	
Ino2	Innovative	.697	***		
Ino3	Innovative	.878	***		
Ino4	Innovative	.658	***		
Log1	Logical	.865		.894	
Log2	Logical	.778	***		
Log3	Logical	.812	***		
Log4	Logical	.840	***		
Stra1	Strategiser	.866		.798	
Stra2	Strategiser	.701	***		
Stra3	Strategiser	.845	***		
Stra4	Strategiser	.475	***		
Tro1	Troubleshooter	.753		.856	
Tro2	Troubleshooter	.731	***		
Tro3	Troubleshooter	.806	***		
Tro4	Troubleshooter	.801	***		

* The first item for each subscale was set to 1.00. All factor loadings were significant at $p < .001$.

F. Factorial validity of the 'doing' sub-domain

Prior to CFA, the EFA result indicated that one item from this sub-domain (item flexible 4) was non-significant due to low loading estimate. Hence, this item was excluded for the CFA. Action-doing domain consists of eight facets which are accountable, authoritative, decisive, fixer, flexible, initiator, resourceful and structured. Each of them consists of four items and only flexible sub-domain consists of three items.

CFA result on the hypothesized model for doing sub-domain.

The CFA results showed adequate support for the hypothesized model, $\chi^2(406) = 2267.7$, $p = .000$, $\chi^2/df = 5.5$, CFI = .912 and RMSEA = .061. The goodness-of-fit indices

of the hypothesized model indicate that this model is statistically fit and acceptable based on certain index; the CFI was equal to or higher than .9 and the RMSEA was below than .08 [13] [18]. Meanwhile, an examination of the Standardized Regression Weights or loading estimates showed that all of the items had a Critical Ratio bigger than 1.96 ($CR < +1.96$) (ranging from 5.1 to 36.1) indicating that they were significant indicators of the 'doing' sub-domain [15]. Majority of the items show loading estimates higher than .50 which indicates a stronger relationship between an observed variable (item) and an underlying latent domain. See Table 6 below for the fit statistics, loading estimates and reliability.

Table 6. The measurement model of 'doing' sub-domain: Fit statistics

Item	Sub-domain	Std <i>L</i>	P	Cronbach's α for each sub-domain	Overall Cronbach's α
Acc1	Accountable	.552		.671	.949
Acc2	Accountable	.826	***		
Acc3	Accountable	.363	***		
Acc4	Accountable	.671	***		
Aut1	Authoritative	.625		.779	
Aut2	Authoritative	.608	***		
Aut3	Authoritative	.720	***		
Aut4	Authoritative	.772	***		
Decs1	Decisive	.624		.791	
Decs2	Decisive	.703	***		
Decs3	Decisive	.709	***		
Decs4	Decisive	.741	***		
Fix1	Fixer	.555		.701	
Fix2	Fixer	.534	***		
Fix3	Fixer	.525	***		
Fix4	Fixer	.783	***		
Flex1	Flexible	.858		.741	
Flex2	Flexible	.794	***		
Flex3	Flexible	.511	***		
Init1	Initiator	.743		.601	
Init2	Initiator	.668	***		
Init3	Initiator	.639	***		
Init4	Initiator	.304	***		
Res1	Resourceful	.830		.878	
Res2	Resourceful	.774	***		
Res3	Resourceful	.832	***		
Res4	Resourceful	.775	***		
Str1	Structured	.708		.602	
Str2	Structured	.317	***		
Str3	Structured	.731	***		
Str4	Structured	.302	***		

* The first item for each subscale was set to 1.00. All factor loadings were significant at $p < .001$.

3.3. Reliability Analysis

The reliability test was conducted for all domains and subdomains. The reliability coefficients for each domain are presented in Table 1 until Table 6. All alpha coefficients were satisfactory as most of the values for each subdomain are larger than .7 indicating that the items for the underlying subdomains are internally consistent [19] [20]. According to [13], for the newly-developed scale, Cronbach's alpha value of .6 is deemed acceptable. The internal consistency for the overall items for each domain was also high with Cronbach's alpha value of .9 indicating that all of the underlying items are internally consistent and assess the same domain.

4. Discussion

The TalentDNA Inventory is a self-scoring measure that describes individual behavioural tendencies based on self-reported responses. The findings of this study confirm that the item content within the TalentDNA Inventory is both valid and was highly relevant to the constructs being measured. The acceptable item-level Content Validity Index (I-CVI) values indicate that each item adequately represents its intended domain, supporting the content validity of the scale. Similar levels of expert agreement have been reported in recent psychometric validation studies, where theoretically grounded items demonstrated strong content relevance and

clarity [21]. Overall, the findings provide initial evidence that the TalentDNA Inventory possesses satisfactory content validity. Therefore, Hypothesis 1 was supported.

The Confirmatory Factor Analysis (CFA) results further revealed that each domain of the TalentDNA Inventory demonstrates a stable and valid factor structure, indicating that the items appropriately map onto their respective domains. Out of 176 items, all retained items showed significant factor loadings in measuring their intended constructs, supporting Hypothesis 2. This pattern of stable multidimensional factor structures is consistent with prior validation studies of behavioural and psychological inventories, which similarly reported strong factorial validity when scale development was guided by clear theoretical frameworks [22] [23]. It should be noted that four items were found to be non-significant during preliminary analyses and were subsequently excluded from the CFA. Such iterative item refinement is a common practice in scale development and aligns with established psychometric standards aimed at enhancing construct clarity and measurement precision [24].

The reliability analysis indicated that the TalentDNA Inventory demonstrates good internal consistency across all domains, suggesting that the items within each domain consistently measure the same underlying construct. High reliability coefficients comparable to those observed in other multidimensional self-report instruments further support the robustness of the scale [21] [22]. Accordingly, Hypothesis 3 was supported. Collectively, these findings provide empirical support for the viability of the three-dimensional structure of the TalentDNA Inventory—drive, network, and action—along with its satisfactory content validity and reliability.

Taken together, the present findings are supported by multiple strands of psychometric evidence. First, the acceptable item-level CVI values ($I-CVI > .78$) are consistent with established recommendations for content validity in scale development studies [11] [12]. Second, the CFA results across all six sub-domains demonstrated acceptable to good model fit indices ($CFI \geq .90$; $RMSEA \leq .08$), aligning with commonly accepted thresholds reported in psychometric validation literature [13] [16]. Third, the consistently high internal consistency coefficients ($\alpha > .80$) across domains mirror reliability patterns observed in other validated multidimensional behavioural instruments [21] [22]. Collectively, this convergence of evidence strengthens confidence in the structural integrity and measurement precision of the TalentDNA Inventory.

When compared with existing psychometric instruments, the TalentDNA Inventory demonstrates psychometric properties that are largely comparable to other recently validated multidimensional behavioural measures [21] [22]. The TalentDNA Inventory exhibits a stable factor structure and strong internal consistency across domains, despite differences in item length and construct focus. Notably, while the TalentDNA Inventory comprises a relatively larger number of items, the process of item removal and refinement observed in the present study mirrors best practices reported

in prior scale development research, supporting its methodological rigor and alignment with contemporary psychometric standards [23] [24].

Overall, the present findings indicate that the TalentDNA Inventory demonstrates acceptable psychometric properties, supporting its use as a structured measure of behavioural tendencies within adult populations. By facilitating greater understanding of one's own and others' characteristic styles, the instrument supports more adaptive behavioural responses, improved decision-making, and effective behavioural management in both personal and organizational contexts.

4.1. Implications and Recommendations for Future Research

Psychometric assessments play an important role in organizational and professional settings by providing insights into individuals' behavioural tendencies, thereby supporting adaptation to workplace challenges and enhancing team dynamics. Within this context, the TalentDNA Inventory offers a structured approach to identifying intrinsic behavioural patterns that influence how individuals think, feel, and act across different situations. Rather than serving as a labeling mechanism, the inventory emphasizes self-awareness and behavioural understanding, which are critical for personal development and effective organizational functioning.

At the individual level, the TalentDNA Inventory may assist individuals in recognizing their strengths, motivational drivers, and potential blind spots, which can inform career development and interpersonal effectiveness. At the organizational level, the instrument may support recruitment, talent development, and succession planning by facilitating alignment between individual behavioural tendencies and job or role requirements. Such applications are consistent with the growing emphasis on evidence-based assessment practices in organizational psychology.

Nevertheless, it should be acknowledged that the reliance on self-reported data may introduce response bias, and the relatively large number of items may warrant further examination of item redundancy in future refinement studies, as recommended in contemporary psychometric research [24].

Future research should extend the validation of the TalentDNA Inventory by examining additional sources of validity evidence, including convergent validity, discriminant validity, and predictive validity, through comparisons with established psychological measures and relevant behavioural outcomes. Cross-cultural validation and longitudinal studies are also recommended to further strengthen the generalizability and interpretability of the instrument.

5. Conclusions

In the context of evolving workforce demands, the present study provides empirical evidence supporting the TalentDNA Inventory as a psychometrically sound instrument for assessing behavioural tendencies in adults. Evidence from content validity analysis demonstrated acceptable expert agreement across items, while confirmatory factor analyses

supported a stable three-domain structure comprising drive, network, and action, each with coherent sub-domains. In addition, the consistently high internal consistency coefficients observed across domains indicate satisfactory measurement precision and reliability.

From a measurement perspective, these findings align with established psychometric standards for scale development and validation, reinforcing the structural integrity and interpretability of the TalentDNA Inventory. The use of a theoretically grounded framework, combined with systematic item evaluation and refinement, strengthens confidence in the inventory's capacity to capture meaningful individual differences in behavioural tendencies.

Beyond its psychometric properties, the TalentDNA Inventory holds potential value for evidence-based talent assessment and development practices. When situated within broader research on talent management and positive psychology, the inventory may serve as a structured mechanism for supporting self-awareness, role alignment, and talent development initiatives in organizational settings. However, its application should be informed by continued validation efforts, including examinations of convergent, discriminant, and predictive validity across diverse populations and contexts.

Overall, the present study contributes to the growing literature on talent assessment by providing a validated measurement tool that integrates theoretical coherence with empirical rigor. Future research that extends the validation of the TalentDNA Inventory across cultures, occupational groups, and longitudinal designs will further clarify its utility and generalizability.

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REFERENCES

- [1] Leopold, T., Di Battista, A., Jativa, X., Sharma, S., Li, R., & Grayling, S. (2025). Future of jobs report 2025. In *World Economic Forum*. <https://www.weforum.org/reports/the-future-of-jobs-report-2025>.
- [2] Gallardo-Gallardo, E., Thunnissen, M., & Scullion, H. (2020). Talent management: context matters. *The International Journal of Human Resource Management*, 31(4), 457-473.
- [3] Votto, A. M., Valecha, R., Najafirad, P., & Rao, H. R. (2021). Artificial intelligence in tactical human resource management: A systematic literature review. *International Journal of Information Management Data Insights*, 1(2), 100047.
- [4] Nakano, T. D. C., Primi, R., & Alves, R. J. R. (2021). 21st century skills: relationship between creativity and socioemotional skills in Brazilian students. *Educar em Revista*, 37.
- [5] Henriksen, K., & Stambulova, N. (2023). The social environment of talent development in youth sport. *Frontiers in sports and active living*, 5, 1127151.
- [6] Wagner, L., & Ruch, W. (2023). Displaying character strengths in behavior is related to well-being and achievement at school: Evidence from between-and within-person analyses. *The Journal of Positive Psychology*, 18(3), 460-480.
- [7] Ayoub, A. E. A., Abdulla Alabbasi, A. M., & Morsy, A. (2022). Gifted education in Egypt: Analyses from a learning-resource perspective. *Cogent Education*, 9(1), 2082118.
- [8] Niemiec, R. M., & Pearce, R. (2021). The practice of character strengths: Unifying definitions, principles, and exploration of what's soaring, emerging, and ripe with potential in science and in practice. *Frontiers in Psychology*, 11, 590220.
- [9] Lavy, S., & Littman-Ovadia, H. (2017). My better self: Using strengths at work and work productivity, organizational citizenship behavior, and satisfaction. *Journal of Career Development*, 44(2), 95-109.
- [10] Peterson, C., & Seligman, M. E. (2006). The values in action (VIA) classification of strengths. A life worth living: Contributions to positive psychology, 29-48.
- [11] Polit DF, Beck CT, Owen SV. Is the CVI an acceptable indicator of content validity Appraisal and recommendations. *Research in Nursing & Health*. 2007; 30(4): 459 67.
- [12] Yusoff MSB. ABC of content validation and content validity index calculation. *Education in Medicine Journal*. 2019; 11(2): 49-54. <https://doi.org/10.21315/eimj2019.11.2.6>.
- [13] Hair Jr., J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* (6th Ed.).
- [14] Nunnally, J. C. & Bernstein, I. H. (1994). *Psychometric theory*. (3rd ed.). New York: McGraw-Hill.
- [15] Byrne, B. M. (2010). *Structural equation modeling with Amos* (2nd ed.). New York: Routledge.
- [16] Kline, R. B. (2011). *Principles and practice of structural equation modeling*. New York: Guilford Press.
- [17] Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston: Allyn & Bacon.
- [18] Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107, 238-246.
- [19] Field AP. *Discovering Statistics Using SPSS*. 2nd ed. London: Sage Publications; 2005.
- [20] Pallant J. *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS for Windows*. 3rd ed. Maidenhead: Open University Press; 2007.
- [21] Lyu, X., Yang, T., Fan, Y., Hong, H., & Fu, C. (2023). Evaluation of the reliability and validity of the Health Regulatory Focus Scale in Chinese samples. *Frontiers in Psychology*, 14, Article 1215209.

<https://doi.org/10.3389/fpsyg.2023.1215209>.

- [22] Fischer, S., Walker, A., & Hyder, S. (2023). The development and validation of a multidimensional organisational trust measure. *Frontiers in Psychology, 14*, Article 1189946. <https://doi.org/10.3389/fpsyg.2023.1189946>.
- [23] Zhou, L., & Parmanto, B. (2020). Development and validation of a comprehensive well-being scale for people in the university environment (Pitt Wellness Scale) using a crowdsourcing approach: Cross-sectional study. *Journal of Medical Internet Research, 22*(4), e15075. <https://doi.org/10.2196/15075>.
- [24] McGeough, J., Gallagher-Mitchell, T., Clark, D. P. A., & Harrison, N. (2021). Reliability and confirmatory factor analysis (CFA) of a paper- versus app-administered resilience scale in Scottish youths: Comparative study. *JMIR mHealth and uHealth, 9*(12), e11055. <https://doi.org/10.2196/11055>.

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