

A quantitative study of work values: perspectives of Vietnamese high school students

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ABSTRACT

In the context of Vietnam's rapidly changing labor market, understanding the work values of youth has become essential for effective career guidance. By using a quantitative method to examine the work values of high school students in Vietnam, with a particular focus on the impact of gender differences. A sample of 544 students (327 female, 217 male) completing the work value questionnaire (WVQ), a validated instrument that underwent reliability testing and exploratory factor analysis (EFA) to ensure robustness. The WVQ, using a Likert scale from 1 to 5, assessed values including power (POW), benevolence (BEN), self-direction (SDI), tradition (TRA), and stimulation (STI). The results revealed that BEN and POW are dominated, with female students showing a greater inclination toward social values and self-assertive roles than male students do. BEN received the highest mean score (4.09), followed by POW (4.03), while SDI, TRA, and STI are scored lower. These findings highlight the importance of aligning educational and career guidance programs with students' core values, taking gender differences into account to create a supportive, inclusive environment for career decision-making. This research offers valuable insights for educators and policymakers, informing the development of vocational education strategies that are ensured by the diverse work value orientations of students.

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1. INTRODUCTION

Since the 1970s, psychologists have prioritized developing theoretical frameworks and measurement tools to capture work values in diverse cultural and occupational contexts [1]. Work values, as conceptualized by Super, represent an individual's career-related motivations and behaviors, evolving across five life stages: growth, exploration, establishment, maintenance, and decline [2], [3]. According to career development theories, work values are fluid and evolve as individuals move through different stages of life [4], [5]. The values were categorized into two distinct orientations: i) self-employment, which places a strong emphasis on personal autonomy, independence, and ii) the ability to exercise authority over one's own work, and wage employment, which prioritizes aspects such as job security, stability, and the social environment within the workplace. The former highlights the desire for greater control over one's career and decision-making processes, while the latter reflects a preference for the security and structure that typically accompany salaried positions within established organizations [6]. Several studies broadened this scope,

identifying ten fundamental work values—such as power, benevolence, and achievement—that motivate individuals and vary by context and personal priorities [7]–[10].

Young perceptions of work values, particularly during high school, hold significant implications for future career development. Studies show that young people's work values evolve alongside their self-awareness, often impacted by gender, age, and social changes. Research highlights gendered differences, with females often prioritizing social values and security, while males focus on independence and responsibility. Despite progress in gender equality, disparities remain, particularly in fields like science, technology, engineering, and mathematics (STEM), where traditional gender roles still influence career choices [11]. Additionally, there are more issues have been researched into work values, that is the quality of student career centers [12], career readiness [4], and career development [13].

In Vietnam, the rapid evolution of technology has created major changes in the structure of the labor market, causing youth need to be flexible when choosing a career and learning direction more active and efficient [14], [15]. The industry 4.0 revolution has spurred new vocational expectations, yet high school students' work values remain underexplored, particularly regarding gender differences. Due to this situation, the Ministry of Education and Training has implemented student streaming after graduating from junior high school and high school. By the way, this has to face with some disadvantages such as the low alignment between education and employment, coupled with income and skill disparities, underscores the need to improve vocational training and develop a sustainable workforce in Vietnam [12], [16].

Despite extensive research on work values, high school students remain underexplored. This group is crucial as they form career aspirations during a key developmental stage [17]–[19]. This unique research is to explore the work values of Vietnamese high school students addressing a gap by examining their priorities and gender-based differences. Additionally, it studied the impact of educational reform on career choices, offering theoretical contributions to career development and practical insights for improving vocational training in Vietnam. Thus, this research is guided and answered by the following questions:

- RQ1: what are the primary work values of Vietnamese high school students?
- RQ2: which work values are most prioritized by Vietnamese female high school students?
- RQ3: how do work value perceptions differ by gender among Vietnamese high school students?

This study examines the relatively understudied work values of Vietnamese high school students, with a particular focus on their prioritized values and gender-based differences during a pivotal stage of development. The findings offer critical insights for shaping educational programs and policies that align with students' evolving needs in a rapidly changing labor market. By addressing this research gap, the study makes both theoretical and practical contributions to the field of youth career development. It underscores the role of cultural contexts and contemporary labor trends, such as industry 4.0, in influencing vocational values, highlighting the importance of integrating these values into career education and investigating the interplay of individual and societal factors in shaping career choices.

2. METHOD

2.1. Research design

This study aims to identify the key work values among Vietnamese high school students, examines gender-based differences, and offer recommendations for improving career education programs. A Likert-scale questionnaire was developed to assess students' attitudes and values related to work, focusing on key areas such as work ethics, career goals, and perceptions of professional success. The survey was conducted with a sample of students from both urban and rural areas to ensure a representative demographic. Data were gathered through the questionnaire, which provided insights into both demographic information and students' work values. The data were then analyzed using descriptive statistics to summarize trends, while inferential techniques, including correlation and regression analysis, were applied to explore relationships and significant differences in work values across different demographic groups.

2.2. Participants

The survey focused on Vietnamese high school students, with a total of 544 participants, including 327 females (59.2%) and 217 males (39.3%). All participants volunteered to take part, with support from their teachers. The survey was administered online using a revised and validated questionnaire, ensuring the accuracy and cultural relevance of the data collected. This approach facilitated the efficient gathering of information from a diverse student sample. Data collection occurred over a two-month period, from September 24 to November 28, 2021, allowing ample time for comprehensive data acquisition.

The expectation of the participants are over 600 respondents, but the final sample consisted of 544 valid responses are representatives of students from three different regions. Of these, 102 participants were from the Northern Region (58 females and 44 males), 141 from the Central Region (84 females and

57 males), and 301 from the Southern Region (185 females and 116 males). Given the study's focus on gender-based differences in work values, a sample exceeding 500 respondents is generally considered adequate for robust statistical analysis, including factor analysis and comparative tests [20]. Thus, this regional representation provided a broad and diverse perspective of the student population across Vietnam, meet the criteria for an adequate sample size, allowing for meaningful statistical analysis.

2.3. Instrument

A toolkit was designed to collect demographic information and high school students' perceptions of work values. The work value questionnaire (WVQ) is designed to measure professional values within the primary ten value structure, and it has been successfully contextualized in the occupational domain [1], [18], [19]. To ensure the validity and reliability of the instrument, it demonstrated a reliability coefficient (Cronbach's alpha) of 0.80 or higher, indicating strong internal consistency. The original English version of the WVQ was translated into Vietnamese through a meticulous process to align with the cultural and linguistic context of Vietnamese high school students and this process of adaptation is supervised by psychologists, and the final version underwent rigorous validation, including revisions to clarify items identified as potentially confusing. The study adhered to strict ethical guidelines to ensure voluntary participation and transparency throughout the research process [21]. School principals, teachers, and students confirmed informed consent forms prior to data collection. This step guaranteed ethical compliance and respect for the participants' autonomy. The work values of students were assessed using the WVQ, which measures various dimensions of work values. The original English version of the WVQ was translated into Vietnamese through a meticulous process to align with the cultural and linguistic context of Vietnamese high school students and this process of adaptation is supervised by psychologists, and the final version underwent rigorous validation, including revisions to clarify items identified as potentially confusing.

To control for confounding variables, the WVQ was carefully translated and adapted to Vietnam cultural context. Data were collected from a diverse sample of 544 students (327 females and 217 males) from various socio-economic backgrounds and region, minimizing demographic biases. The online survey format ensured the respondents were not impacted by other factors because it was informed and consented by students, teachers and parents.

The final questionnaire consisted of 30 items, with three statements representing each dimension of work values. Students were asked to reflect on their future professional aspirations and rate each statement on a five-point Likert scale, ranging from 1 (entirely unlike me) to 5 (very similar to me). This structured format allowed for a focused and nuanced analysis of students' perceptions.

The online survey was conducted between September 24 and November 28, 2021, following the experimental validation of the updated questionnaire. The methodological rigor employed, including validation and reliability testing, ensured the study's findings were credible and accurately reflected the work values of Vietnamese high school students. Demographic data were gathered to provide a comprehensive profile of the study's participants. The sample included 544 Vietnamese high school students, comprising 327 females and 217 males, from diverse socio-economic backgrounds and various regions. This diversity ensured a robust dataset, enabling the analysis to capture a wide range of perspectives.

2.4. Data collection and analysis

The study collected 544 valid responses from Vietnamese high school students, which were analyzed using IBM SPSS version 22.0. To address the research questions, exploratory factor analysis (EFA) was conducted to identify work value dimensions within the Vietnamese cultural context, validating the scale structure. Reliability was assessed through internal consistency and item-total correlations. The mean scores of work values were calculated to identify the most prioritized factors among students. One-way analysis of variance (ANOVA) was then used to examine gender differences in work values, highlighting significant variations between male and female students. Although the instrument was administered only once, limiting the ability to test for retest reliability, the analysis methods provided valuable insights into the work values of Vietnamese high school students.

3. RESULTS AND DISCUSSION

3.1. The primary work values of Vietnamese high school students

The mean score of the five-point scale Likert items used to assess WVQ ranged from 2.70 to 4.27. The skewness of the WVQ scales ranges from -1 to 1 of standard construction. To examine the scale's dimensionality, an EFA using SPSS software and the screen test suggests the five factors' structure. Each item included similar items equal to the exact value dimensions from Schwartz's model, as in seen Table 1, including power (POW), benevolence (BEN), self-direction (SDI), stimulation (STI), and tradition (TRA).

Table 1 shows these five factors appear to be internally consistent, given the Cronbach's alpha value (alpha were all $>.70$). After EFA, the work values contained: internationalism, hedonism, achievement, and security have small validity and reliability ($\alpha < .7$) has been split out. The final questionnaire was rearranged into five groups which showed high reliability ($\alpha = .86$ for the POW value, $\alpha = .83$ for the BEN value, $\alpha = .82$ for the SDI value, $\alpha = .86$ for the STI and $\alpha = .75$ for TRA value). After completing the applicant review, participants completed the questionnaire, and the Institution Review Board approved the procedures for this study.

The first factor (POW) contained six items that refer to the power and achievement dimensions. Their content reflects the affirmation of themselves in the work context. Students want to have the job of ensuring safety and respecting their rights to make them feel confident and promote their strength. The second factor (BEN) contained five items that refer to values oriented toward respect and being helpful to others. Students demonstrate levels of commitment in their work, such as honesty, sincerity, approachability, helping, and responsibility. The third factor (SDI) contained six items that reflect an orientation toward change, an openness to putting themselves in future work situations, and an ability to tolerate the unexpected. Students express themselves, think positively, make independent and creative choices, and maximize their capacity and intelligence. The fourth factor (STI) contained four items that refer to the value-oriented toward the work in which students show their interest in challenges, curiosity, and discovering all the new things in their work, thus making their personal lives more enjoyable and motivating. The sixth factor (TRA) contained three items reflecting stability, surrender, and respect for what remains in work situations. Students demonstrate by respecting the core values of traditional habits and cultures in the family and locality.

Table 1. The rotated component matrix

Items	Component					
	F.01	F.02	F.03	F.04	F.05	F.06
C. 01				.846		
C. 02				.689		
C. 03			.309	.788		
C. 04			.643			
C. 05			.312	.659		
C. 06		.327	.576	.347		
C. 07		.758				
C. 08		.766				
C. 09		.753				
C. 10		.664				
C. 11		.327				.672
C. 12	.329	.560				
C. 13					.736	
C. 14					.759	
C. 16						.673
C. 18					.785	
C. 19			.560			
C. 22			.642			
C. 23			.664	.330		
C. 24			.676			
C. 25	.686		.333			
C. 26	.684		.363			
C. 27	.672		.331			.335
C. 28	.689					
C. 29	.768	.316				
C. 30	.739	.343				

Extraction method: principal component analysis. Rotation method: varimax with Kaiser normalization.

3.2. Prioritized work values of Vietnamese high school students

High school students express their perception of work values by describing their future work in each item that suits them the most. The descriptive statistical analysis was used to evaluate the five factors in the WVQ to find which work value is similar the most, as shown in Table 2. The table shows that the work value suitable to them most is BEN (mean=4.09), the second is POW (mean=4.03), the third is SDI (mean=3.36), forth is TRA (mean=3.28), and the last is STI (mean=3.00). There has two highest work values evaluated in 4 levels are POW and BEN.

Regarding BEN, the correspondent's feedback shows that students think that future work has an environment where they can "be loyal to colleagues" (mean=4.27, Std.=.978). They also could "be attentive to colleagues' needs and emotional states" (mean=4.06, Std.=1.007), "respect colleague's work and make an effort to understand their point of view even if he/she does not share it" (mean=4.06, Std.=.968) and "dedicate attention to and listen to colleagues he/she does not esteem very much" (mean=4.06, Std.=.978). Based on student feedback, POW's most significant work value was "know that on-the-job site, safety norms

and regulations concerning the prevention of accidents are respected" (mean=4.16, Std.=.991). They consider the future work "fun and makes him/her feel good" (mean=4.02, Std.=1.034). This work value expresses the tendency of which students to find a job that could protect their rights stable and positive environment in the workplace.

According to SDI and TRA work values, students could "learn different aspects of his/her work and acquire new competencies" (mean=3.62, Std.=1.903). On the other hand, they could "work while remaining loyal to TRA and without adhering to continuous changes" (mean=3.37, Std.=1.077). They want future work to be creative and challenging and improve their skills in SDI work value. They also expressed that they could maintain or follow the pre-existing custom in future work by "respect the custom, rather than express his/her ideas" (mean=3.29, Std.=1.085) and "traditionally do things and use the customs learned" (mean=3.19, Std.=1.118). The final work value, STI, shows that students want to "be the person in charge and tell others what to do" (mean=3.45, Std.=1.142). They "assume a leadership position and have decision-making authority" (mean=3.06, Std.=1.170). Students have less tendency in the work which is leadership or be responsible with others.

Table 2. Statistic description of WVQ scale

Code	Items	N	Mean	Std. Deviation
F.01	POW (mean=4.03; Cronbach's alpha=.86)			
C. 25		544	3.98	1.040
C. 26		544	4.02	1.034
C. 27		544	3.92	1.039
C. 28		544	4.00	1.057
C. 29		544	4.10	1.044
C. 30		544	4.16	.991
F.02	BEN (mean=4.09; Cronbach's alpha=.83)			
C. 07		544	4.06	1.007
C. 08		544	4.06	.968
C. 09		544	4.06	.978
C. 10		544	4.01	.952
C. 12		544	4.27	.973
F.03	SDI (mean=3.36; Cronbach's alpha=.82)			
C. 04		544	3.24	1.319
C. 06		544	3.53	1.026
C. 19		544	3.47	.982
C. 22		544	3.62	1.093
C. 23		544	3.26	1.059
C. 24		544	3.06	1.103
F.04	STI (mean=3.00; Cronbach's alpha=.86)			
C. 01		544	3.06	1.170
C. 02		544	3.45	1.142
C. 03		544	2.70	1.102
C. 05		544	2.79	1.244
F.05	TRA (mean=3.28; Cronbach's alpha=.75)			
C. 13		544	3.19	1.118
C. 14		544	3.29	1.085
C. 18		544	3.37	1.077

3.3. The gender differences

Male and female high school students' differences are analyzed through the ANOVA method. Table 3 represents the differences are statistical meaning between males and females in the work value perception $F(1, 542)=4.160$, $p=.042$) the differences between male and female students in work value perception. The results showed two work values were statistically significant, including POW ($F(1,542)=15.282$, $p=.00$) and BEN ($F(1,542)=10.039$, $p=.002$). The male and female considered the work that could assert their position in society, as well as be able to develop their competency. In addition, the future works they choose must also satisfy human values and be able to help others.

Figure 1 presents the mean differences between male and female students in work value perception. The disparity in perception between males and females was moderate, although females had a higher mean than males in each item (average mean difference=.11). For the SDI work value, the difference between males and females was .05. For STI, there were no differences in gender. For TRA, the difference between males and females was .14. However, these work value has no statistical significance in gendered differences. Notably, female students' mean value was .27 higher than males in POW career value and .21 higher than males in BEN.

Table 3. ANOVA test between male and female high school students in work value perception

	Items	Sum of squares	df	Mean square	F	Sig.
F01	Between groups	1.441	1	1.441	4.160	.042
	Within groups	187.762	542	.346		
	Total	189.204	543			
POW	Between groups	9.289	1	9.289	15.282	.000
	Within groups	329.459	542	.608		
	Total	338.748	543			
BEN	Between groups	5.849	1	5.849	10.039	.002
	Within groups	315.822	542	.583		
	Total	321.671	543			
SDI	Between groups	.265	1	.265	.421	.517
	Within groups	340.849	542	.629		
	Total	341.114	543			
STI	Between groups	.000	1	.000	.000	.989
	Within groups	482.771	542	.891		
	Total	482.771	543			
TRA	Between groups	2.698	1	2.698	3.423	.065
	Within groups	427.163	542	.788		
	Total	429.861	543			

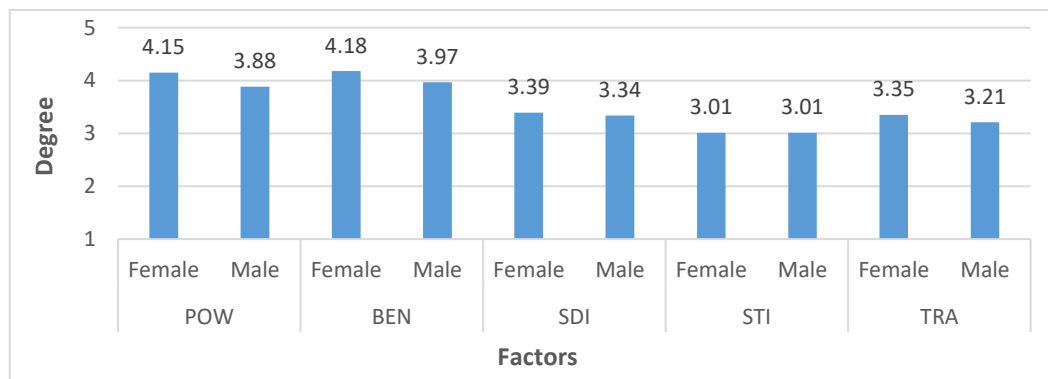


Figure 1. The mean difference between males and females

Seeing these values within broader socio-economic frameworks and ongoing educational reforms, according to the International Labour Organization (ILO), 46.52% of Vietnamese women are active in the labor market, with a significant proportion employed in agriculture (36.1%) and manufacturing (25.4%) [22]. However, traditionally gender roles often place women in more vulnerable positions, limiting their awareness of emerging professions. The 2018 educational reforms initiated by the Ministry of Education and Training emphasize the integration of gender issues into vocational education, aiming to mitigate stereotypes and promote a more equitable workforce. Several recommendations for future research are proposed that is expanding the sample size to include students from various regions of Vietnam could enhance the study by capturing a broader range of socio-economic backgrounds and regional variations. That is incorporating qualitative methods, such as interviews or focus groups, may provide deeper insights into the personal experiences and cultural influences shaping students' work values. The research could also examine factors such as parental occupation, school type (public versus private), and academic performance to better understand their impact on students' career outlooks. That is a longitudinal approach could track changes in work values over time as students' progress through their education and transition into the workforce.

This study has its own limitations. First, issues of sample representativeness may arise, as the research is confined to a specific region or set of schools, potentially failing to reflect the diverse socio-economic and cultural backgrounds of students across Vietnam. Second, the self-reporting nature of the data collection may create bias, as students might provide socially desirable responses rather than accurate reflections of their work values. Lastly, the cross-sectional design limits the ability to observe changes in work values over time, suggesting that a longitudinal approach could yield more comprehensive insights into how these values evolve with age and educational progress.

The study identifies five primary work values among Vietnamese high school students: POW, BEN, SDI, STI, and TRA. Notably, students-particularly female students-prioritize POW and BEN over other values, reflecting a preference for careers that enable them to assert their competencies and contribute to social values. This inclination aligns with Schwartz's theory on the hierarchy of human values and

corroborates findings from previous research in similar cultural contexts, such as Hong Kong, where students also prioritize societal contributions alongside personal success [23]–[25].

Recent investigations into adolescents' perceptions of work values highlight the significance of this developmental stage, as students begin to form comprehensive understandings of their vocational aspirations [26]. Studies focusing on Chinese youth have documented shifts in work values post-economic reform, demonstrating that such values play a crucial role in shaping job selection behaviors and perceptions of life's purpose [27]. This study extends these findings by exploring how Vietnamese students' values align with contemporary labor market trends, particularly in STEM fields. The emphasis on technology and sustainability reflects the ongoing technological revolution, which necessitates proficiency in tools related to industry 4.0 [28].

The significant focus female students place on BEN and POW in their career choices mirrors findings from previous research indicating women's preferences for helping professions that contribute to societal improvement [27], [28]. Furthermore, the cultural context-rooted in agricultural traditions-reinforces collective values that may deprioritize SDI and STI compared to individualistic cultures [29]. These insights suggest that educators must consider cultural nuances when guiding students toward vocational opportunities, fostering environments that enhance familial awareness regarding career choices that resonate with students' values.

The findings of this study have substantial implications for educational practices. By recognizing and integrating students' work values into vocational programs, educators can create career exploration initiatives that empower students to select roles aligned with their interests and competencies. This approach not only enhances students' readiness for the workforce but also helps educators tailor guidance to individual career trajectories. While this study contributes to the understanding of work values among Vietnamese high school students, it also presents several limitations. The cross-regional design restricts causal inferences, and the sample may not fully represent the diversity of female high school students across Vietnam [30]. Future research should aim to broaden the sample size to include diverse demographics across various regions, thereby validating these findings. Additionally, investigating other influential factors-such as personal traits, vocational interests, and social dynamics-will provide a more nuanced understanding of how gender, region, and academic performance interact to shape work values [31]. Moreover, this study's adapted measurement framework can serve as a foundation for subsequent investigations into these dimensions, enabling researchers to explore the intersectionality of work values and other personal and socio-cultural factors. Ultimately, these insights could significantly enhance our understanding of students' career choices and self-management strategies, thereby contributing to the evolving discourse on gender and vocational education.

4. CONCLUSION

The perspectives of these students represented that BEN and POW are the most valued work attributes among female high school students, followed by SDI, STI, and TRA. These findings suggest that students seek careers that promote positive interactions with colleagues, enabling them to make meaningful contributions to their organizations and work environments. Notably, female students place a higher value on POW and BEN than their male counterparts, demonstrating a preference for roles that provide social status, independence, and respect, while showing less emphasis on SDI, STI, and TRA. Furthermore, female students exhibit a reluctance toward positions that entail high responsibility or leadership challenges, favoring a work culture that is less restrictive and allows for the expression of individual performance. This research provides valuable insights into the work values held by high school students, highlighting gender differences that can inform the development of vocational education strategies. The findings may assist educators and school administrators in tailoring vocational orientation programs that align with students' work orientations, ensuring that appropriate guidance is provided based on gender-specific preferences.

The futuristic researches should be focused on two opposite tendencies of work value of the schooling learners, which one is each of the feature of the work values of these students' perception should be researched in terms of the reflections of the demands and supply of the labor market, and the other is the work value should be studied in the lower levels of educational system while Vietnam education has been more streamlined much more than ever because of the requirements of labors these recent years of the rapid developing economics.

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C : Conceptualization

M : Methodology

So : Software

Va : Validation

Fo : Formal analysis

I : Investigation

R : Resources

D : Data Curation

O : Writing - Original Draft

E : Writing - Review & Editing

Vi : Visualization

Su : Supervision

P : Project administration

Fu : Funding acquisition

CONFLICT OF INTEREST STATEMENT

The authors declare that they have no conflict of interest.

INFORMED CONSENT

We have obtained informed consent from all individuals included in this study.

ETHICAL APPROVAL

All procedures performed in studies involving human participants were conducted in accordance with the ethical standards of the institutional and/or national research committee, adhered to the principles of the Declaration of Helsinki, and received approval from the author's Institutional Review Board (IRB) or an equivalent ethics committee.

DATA AVAILABILITY

The data that support the findings of this study are available from the first author [T-TN], upon reasonable request. The data, which contain information that could compromise the privacy of research participants, are not publicly available due to certain restrictions.

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