



The Impact of Educational Tracks and Self-Esteem of Lebanese Adolescents in Light of Gender Differences

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Abstract: Objective: To examine whether educational tracks (academic/vocational) and gender predict Lebanese adolescents' self-esteem. **Methods:** A predictive-comparative design was applied to a convenience sample of 300 students (50% academic, 50% vocational; ages 15–20) enrolled in public secondary schools and vocational institutes in Dinniyeh District (2023–2024). Self-esteem was measured with the Hudson Self-Esteem Scale (Arabic translation by El-Dessouki, 2002). Within-gender stepwise screening was conducted; final models were simple linear regressions estimated separately for males and females. Scores were oriented so that higher values indicate higher self-esteem. **Results:** Track membership significantly predicted self-esteem for both genders, with a stronger effect among females. For males, $R^2 = .215$, $p = .001$; for females, $R^2 = .312$, $p < .001$. In both groups, students in the academic track reported higher self-esteem than those in the vocational track. **Conclusion:** Educational track is a meaningful psychological context for Lebanese adolescents' self-evaluation, especially for girls. The findings support gender-responsive programming and esteem-enhancing recognition within vocational education (e.g., skills showcase, micro-credentials, structured feedback).

Keywords: Educational tracks, Self-esteem, Adolescents, Gender differences, Lebanon

أثر المسارات التعليمية وتقدير الذات لدى المراهقين اللبنانيين في ضوء الفروق بين الجنسين

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المخلص: الهدف: فحص قدرة المسارات التعليمية (الأكاديمية/المهنية) والجنس على التنبؤ بتقدير الذات لدى المراهقين اللبنانيين. **المنهجية:** اتبّع تصميم تنبؤي-مقارن على عينة متبصرة من 300 طالب/ة (50% أكاديمي، 50% مهني؛ أعمار 15–20 سنة) من المدارس الثانوية الرسمية والمعاهد المهنية في قضاء الضنية خلال عام 2023–2024. جُمعت البيانات باستخدام مقياس هودسون لتقدير الذات (الترجمة العربية: الدسوقي، 2002). أُجري فحص تمهيدي بطريقة Stepwise داخل كل جنس؛ وكانت النماذج النهائية انحدارًا خطيًا بسيطًا للذكور والإناث على حدة. وجرى توجيه الدرجات بحيث تشير القيم الأعلى إلى تقدير ذات أعلى. **النتائج:** تبين أن المسار التعليمي يتنبأ بتقدير الذات لكلا الجنسين، مع أثر أقوى لدى الإناث؛ إذ بلغ لدى الذكور $R^2 = .215$, $p = .001$ ، ولدى الإناث $R^2 = .312$, $p < .001$. وقد سجّل طلبة المسار الأكاديمي تقدير ذات أعلى من نظرائهم في المسار المهني. **الخلاصة:** يمثل المسار التعليمي سياقًا نفسيًا مؤثرًا في تقدير الذات لدى المراهقين اللبنانيين، ولا سيما الإناث. وتدعم النتائج تصميم تدخلات مراعية للنوع الاجتماعي وتعزيز إشارات الاعتراف داخل التعليم المهني (مثل معارض المهارات والاعتمادات المصغرة ودورات التغذية الراجعة). **الكلمات المفتاحية:** المسارات التعليمية؛ تقدير الذات؛ المراهقون؛ الفروق بين الجنسين؛ لبنان.

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Introduction

Self-esteem is widely recognized as a cornerstone of psychological well-being, shaping how individuals think, feel, and act throughout their lives. Adolescence, in particular, is a formative stage characterized by rapid emotional, social, and identity-related changes, during which self-worth becomes especially sensitive to external influences (Rosenberg, 1965; Orth & Robins, 2020). At this stage, young people navigate increased social comparisons and heightened self-awareness, making them more vulnerable to fluctuations in self-esteem.

One of the most influential factors during adolescence is the educational track a student follows—academic or vocational. The chosen track can shape self-perception, aspirations, and perceived social value (Harter, 1999; Sikora & Saha, 2019). In many contexts, including Lebanon, gender norms and societal expectations intersect with educational choices, influencing how adolescents view themselves and their future.

In Lebanon, the decision between general secondary and vocational education is a pivotal turning point with long-term implications for career opportunities and social standing. While recent reforms—such as Lebanon's National Strategic Framework for Technical and Vocational Education and Training (2018–2022)—aim to improve the quality and status of vocational education, reports such as UNESCO-UNEVOC (2021) indicate that public perceptions remain uneven, with clear gender differences in enrollment patterns.

Students in vocational tracks often face lower social prestige and reduced academic expectations, potentially undermining their confidence. Yet, these programs also offer early access to practical skills and workplace readiness, which may enhance competence-based self-esteem. This tension highlights the

need for empirical research exploring how track type and gender together influence self-worth.

Addressing this gap, the present study examines the relationship between educational track and self-esteem among adolescents in the Dinniyeh District of North Lebanon, with particular attention to gender differences. Guided by a comparative predictive descriptive design, the study applies Stepwise Multiple Linear Regression to determine whether the chosen track uniquely predicts self-esteem levels for male and female students.

Research Problem

Self-esteem is widely recognized as a central psychological construct that shapes individuals' personalities, attitudes, and behaviors across the lifespan. Adolescence, in particular, represents a critical developmental period characterized by rapid cognitive, emotional, and social changes, during which young people actively explore their identities and compare themselves to peers (Rosenberg, 1965; Orth & Robins, 2020). At this stage, fluctuations in self-worth are common and can be strongly influenced by external environments, including the school setting.

The educational track a student follows—whether academic or vocational—can play a decisive role in shaping self-perception, influencing aspirations, and defining perceived social value (Harter, 1999; Sikora & Saha, 2019). Gender norms and cultural expectations often intersect with track choice, potentially reinforcing or challenging adolescents' self-concept and career outlook.

From a theoretical perspective, Erikson's psychosocial development theory positions adolescence (ages 12–18) within the "Identity vs. Role Confusion" stage, where individuals strive to establish a coherent sense of self. Placement in an academic or vocational track during this stage can significantly impact

identity formation, with success and recognition reinforcing self-esteem, while perceived limitations may contribute to uncertainty or reduced self-worth. Similarly, Maslow's hierarchy of needs (1943) posits that self-esteem is built upon the fulfillment of more fundamental needs, meaning that educational experiences offering achievement, recognition, and belonging can serve as powerful drivers of self-confidence. These frameworks provide valuable insight into how track choice might interact with gender to influence self-esteem among adolescents.

In Lebanon, the decision to pursue either a general secondary or vocational education track marks a pivotal moment in a student's academic journey. This choice not only affects future educational and career opportunities but is also closely linked to public perceptions of social status (Blascovich & Tomaka, 1991). Although recent national strategies, such as Lebanon's National Strategic Framework for Technical and Vocational Education and Training (2018–2022), have sought to improve the quality and reputation of vocational education (Lebanese Ministry of Education and Higher Education et al., 2018), disparities in perception remain. UNESCO-UNEVOC's (2021) profile of Lebanon continues to highlight gendered enrollment patterns and persistent differences in societal attitudes toward academic and vocational tracks.

Against this backdrop, the current study seeks to determine the extent to which educational track and gender together predict self-esteem among Lebanese adolescents. This inquiry is situated within broader discussions on educational equity, career guidance, and adolescent mental health, aiming to provide evidence that is both scientifically robust and locally relevant.

Central Research Question

To what extent do educational tracks (academic/vocational) and gender together predict self-esteem among Lebanese adolescents?

Sub-questions

1. To what extent does the educational track (academic/vocational) predict self-esteem among Lebanese adolescents?
2. To what extent does gender predict self-esteem among Lebanese adolescents?

Main Objective

To examine the combined predictive power of educational tracks (academic/vocational) and gender on the self-esteem of Lebanese adolescents.

Specific Objectives

1. To determine the extent to which the educational track predicts self-esteem among Lebanese adolescents.
2. To assess the extent to which gender predicts self-esteem in this population.

Theoretical Significance

This study contributes to the theoretical understanding of how educational tracks and gender jointly shape self-esteem during adolescence, a developmental period that is critical for identity formation. By applying Erikson's psychosocial development theory and Maslow's hierarchy of needs to the Lebanese context, the research expands existing models of self-esteem to include culturally specific factors, such as societal perceptions of vocational education and gender norms. The findings address a notable gap in Arab-world research, where empirical evidence on the relationship between school tracks and self-esteem—particularly when examined through a gender lens—is still limited.

Practical Significance

- Provide evidence-based insights to help policymakers improve both academic and

vocational tracks in ways that support students' self-esteem.

- Guide school counselors in designing gender-sensitive programs that address the specific needs of male and female adolescents.
- Support vocational education reforms aimed at enhancing the social image and attractiveness of vocational tracks.
- Inform teacher training programs to include strategies for fostering positive self-concept in students, regardless of track choice.
- Help bridge the gap between schools and families in providing consistent support for adolescents' psychological well-being.

Definition of Terms

Educational Tracks: Structured academic or vocational programs available to students after compulsory education, designed to guide future educational and career development (Lebanese Ministry of Education and Higher Education et al., 2018).

Self-Esteem: An individual's overall evaluation of their worth, including self-perceptions, beliefs, and emotions about the self (Orth & Robins, 2020; Rosenberg, 1965). As treated in Mowanes (2019), self-esteem is a multifaceted psychological construct involving both cognitive self-evaluations and affective self-attitudes, which correlate with emotional innovation and overall psychological well-being.

Adolescence: The developmental stage between childhood and adulthood, typically spanning ages 10 to 19, (World Health Organization, 2014), Adolescence is defined as the transitional phase between childhood and adulthood, during which individuals experience psychological, emotional, and social transformations that shape their identity and behavior. (Awad & Hamad, 2025)

Delimitations

These delimitations were intentionally set by the researcher to narrow the scope of the study:

Population: Limited to adolescents enrolled in public academic secondary schools and public vocational institutes in the Dinniyeh District, North Lebanon.

Geographical: Data collected solely from the Dinniyeh District.

Temporal: Research conducted during the 2023/2024 academic year.

Topical: Focused exclusively on the predictive relationship between educational track and gender with self-esteem, excluding other psychological or socio-economic variables.

Limitations

While the study adds policy-relevant evidence from a rare Lebanese setting, the following constraints should be considered:

Cross-sectional design: precludes causal inference; observed differences may reflect pre-existing contextual factors.

Sampling & generalizability: convenience sample from a single district (Dinniyeh) with an intentional 50/50 track balance; limits external validity.

Self-report measurement: Hudson (Arabic) is self-reported; measurement invariance across gender/track was not tested.

Model scope: key covariates (SES, parental education, school climate) were not included, and **school-level clustering** was not modeled; standard errors may be affected.

Mitigation: we used a reliable scale, gender-stratified models, explicit coding/score direction, and reported **95% CIs** and **effect sizes** to enhance interpretability.

Accordingly, the findings should be interpreted as context-bound, correlational evidence rather than causal effects; future

research using longitudinal and multilevel designs, with key covariates (e.g., SES, parental education, prior achievement, school climate), explicit modeling of school-level clustering, and tests of measurement invariance across gender and track, would strengthen inference and generalizability.

Theoretical Framework and Previous Studies

Adolescence is widely recognized as a pivotal stage in human development, during which personality traits, self-concepts, and social roles begin to crystallize. Within this transitional period, educational tracks—whether academic or vocational—emerge as a central determinant of adolescents' experiences, aspirations, and self-perceptions. The academic track is traditionally perceived as the track toward higher education, while the vocational track is often associated with practical training and early entry into the labor market. This distinction is not merely educational; it reflects broader societal perceptions and, in some cases, entrenched stereotypes. For instance, academic tracks are frequently equated with higher achievement and prestige, whereas vocational tracks are sometimes viewed as a secondary option for students with lower academic performance—a perception that recent research challenges (OECD, 2020).

Self-esteem is a core psychological construct that plays a central role in adolescents' mental health, social adjustment, and overall well-being. It refers to an individual's evaluation of their own worth and the degree of self-acceptance and satisfaction they feel (Rosenberg, 1965; Orth & Robins, 2019). Empirical evidence indicates that self-esteem is shaped not only by personal attributes but also by the broader educational and social contexts in which adolescents live. When students feel valued and recognized within their

learning environment, they are more likely to develop a positive self-concept, regardless of their track placement.

From a theoretical perspective, Erikson's psychosocial development theory situates adolescence (ages 12–18) in the "Identity vs. Role Confusion" stage, where individuals strive to form a coherent identity. Placement in an academic or vocational track during this stage can profoundly influence identity formation: success and recognition can reinforce self-worth, whereas perceived limitations may contribute to uncertainty or diminished self-esteem. Maslow's hierarchy of needs (1943) similarly emphasizes that self-esteem builds upon the fulfillment of more fundamental needs, such as belonging and achievement—both of which can be strongly influenced by educational experiences.

Gender differences add another dimension to this relationship. Cultural norms and societal expectations often shape male and female students' choices and experiences in education. In many contexts, males are encouraged to pursue academic tracks leading to leadership roles or STEM careers, whereas females may gravitate toward fields perceived as more compatible with traditional social roles (UNESCO, 2021). These patterns do not necessarily reflect actual abilities, but rather internalized expectations and cultural values.

International research offers important insights into the track–self-esteem relationship. Chen et al. (2020) found that students in vocational tracks can exhibit self-esteem levels comparable to, or even higher than, those in academic tracks when their educational environment fosters respect and provides real opportunities for achievement. Similarly, Khalid and Ahmed (2019) observed that gender differences in self-esteem diminish when students, regardless of track, experience meaningful success in their chosen fields.

Alivernini et al. (2022) highlighted the crucial role of family and school support in enhancing self-esteem, particularly for students facing social stigma related to vocational education.

In the Lebanese context, several studies have examined self-esteem and related constructs among youth, though few have directly addressed the role of educational tracks. Sarouhim (2011) explored differences in self-esteem between gifted and non-gifted Lebanese students, revealing significant gender interactions in self-perception. In a later work, Sarouhim (2020) applied Marcia's identity status framework to Lebanese adolescents, underscoring the influence of educational experiences on identity development. Obeid et al. (2019) found that low self-esteem was strongly associated with depression, anxiety, and burnout in a Lebanese sample. Abou Yassin et al. (2022) reported that authoritative parenting styles positively predict adolescent self-esteem, pointing to the importance of the home environment. Al-Musharaf et al. (2022) further demonstrated that self-esteem mediates the link between psychological distress and body dissatisfaction among Lebanese adolescents.

Despite these contributions, no published Lebanese study has explicitly investigated how educational tracks and gender jointly predict self-esteem among adolescents. This gap underscores the importance of the present research, which seeks to provide evidence that is both scientifically rigorous and contextually grounded in Lebanon.

Methodology

In this study, a predictive-comparative research design was used. This approach is often applied in educational and psychological studies when the goal is not only to compare groups based on certain independent variables but also to predict possible outcomes for a dependent variable. Here, it served two

purposes: first, to compare self-esteem levels among Lebanese adolescents according to their educational track (academic or vocational) and gender; and second, to predict self-esteem scores based on these factors.

This design was chosen because it aligns closely with the study's aims and research questions. By combining group comparisons with predictive analysis, it offers a more comprehensive picture of how educational tracks and gender might influence adolescents' self-esteem. It also allows the findings to move beyond identifying simple differences, helping to anticipate patterns and relationships that may be relevant for both educational planning and psychological support.

Research Population

The study population comprised all male and female students enrolled in the post-Grade 9 stage in both the academic and vocational tracks in the district of Dinniyeh, North Lebanon, during the 2023–2024 academic year. This population was distributed across four vocational institutes and several public secondary schools in the district. The selection of this population was based on the importance of this developmental stage in shaping students' academic and career trajectories, as well as the scarcity of studies addressing this specific group in the region.

Pilot Sample

A pilot sample of 50 students (both male and female) was randomly selected from four vocational institutes and two public secondary schools in the Dinniyeh district. This sample was chosen due to its similarity to the main study sample in demographic and educational characteristics. The pilot study aimed to verify the appropriateness of the research instrument, ensure the clarity of its items, and confirm its validity and reliability before applying it to the main sample. Data in the pilot phase were also collected using the **Hudson Self-Esteem Scale**,

translated into Arabic by Magdy Mohamed El-Dessouki (2002), to ensure its applicability in the Lebanese context.

Main Sample

The main study sample consisted of 300 students, equally divided between the academic track (50%) and the vocational track (50%). In the academic track, participants were drawn from Grades 10, 11, and 12, while in the vocational track they were enrolled in the first, second, and third years of the Technical Baccalaureate program. Participants' ages ranged from 15 to 20 years, with an average age of 17.5 years.

Given the practical considerations of fieldwork, the sample was obtained through a convenience sampling approach, targeting students in educational institutions accessible within the Dinniyeh district. This approach was selected for logistical reasons, while ensuring balanced representation between tracks to maintain the validity of comparisons. The gender distribution observed in the sample reflects the actual enrollment figures within these institutions during the study period, rather than the broader demographic structure of the Lebanese population.

Data for the main study were collected using the Hudson Self-Esteem Scale (Arabic translation: El-Dessouki, 2002). Statistical analysis employed Stepwise Multiple Linear Regression separately for male and female students to assess the predictive contribution of educational track and gender to self-esteem levels. This approach not only allowed for the identification of significant predictors but also provided a model that can be used to anticipate variations in self-esteem across different student groups.

Table (1): Distribution of Study Sample by Gender and Type of Education.

Demographic Characteristics	Number	Percentage
Gender		
Male	92	30.7%
Female	208	69.3%
Type of Education		
Vocational	150	50.0%
Academic (Secondary)	150	50.0%

The table above illustrates the number of participants in the current study sample, which includes **300 students**. The data also show that the **majority of the sample consists of females**, accounting for **69.3%**, while males make up **30.7%**.

This gender disparity is primarily due to the **higher number of respondents in the vocational track coming from the Early Childhood Education branch (32.7%)**, which is predominantly female. On the other hand, the vocational specialization with the highest concentration of males, **Electrical Studies**, accounted for only **2.7%** of the sample.

In the academic track, **males were mostly found in the General Sciences branch in the third secondary year**, but their representation was quite low, at only **4.7%**. In contrast, the **Life Sciences branch, which is predominantly female, accounted for 21.1%** of the sample. This gender distribution imbalance explains the observed differences in numbers between males and females.

Additionally, the respondents were **equally distributed between the vocational (50%) and academic (50%) tracks**.

Regarding the distribution of participants by specialization, the breakdown is presented in **Table 2 below**, which details the study sample according to the **specialization variable**.

Table (2): Distribution of Study Sample by Specialization Type.

Vocational Specialization	Number	Percentage	Academic Specialization	Number	Percentage
Early Childhood Education	49	32.7%	First Secondary	33	22.0%
Hotel Management	45	30.0%	Second Secondary – Scientific	19	12.7%
Nursing Care	27	18.0%	Second Secondary – Literary	13	8.7%
Business Administration	8	5.3%	Third Secondary - General Sciences	7	4.7%
Health Monitoring	8	5.3%	Third Secondary - Life Sciences	32	21.3%
Electrical Studies	4	2.7%	Third Secondary - Sociology & Economics	38	25.3%
Physical Education	4	2.7%	Third Secondary – Humanities	8	5.3%
Other Specializations	5	3.3%			

Research Instrument

Data were collected using the **Hudson Self-Esteem Scale** (Hudson, 1982), in its Arabic translation prepared and validated by **Magdy Mohamed El-Dessouki (2002)**. The scale consists of 25 items rated on a five-point Likert scale ranging from “Strongly Agree” to “Strongly Disagree.” Items were reverse-keyed per the Hudson manual and oriented so that higher composite scores indicate higher self-esteem.”.

The instrument was selected for its strong psychometric properties and its prior use in Arab educational contexts. In the present study, content validity was confirmed through review by a panel of educational psychology experts. Reliability analysis using Cronbach’s alpha yielded a coefficient of **0.89** in the pilot study, indicating high internal consistency.

Ethical considerations

Following administrative clearance from the **Ministry of Education and Higher Education (MEHE)** to contact participating public secondary schools and public vocational institutes in Dinniyeh District, the study protocol was submitted to the **Ethics Committee of Saint Joseph University of Beirut (USJ)** and received approval). Prior to data collection, written informed consent was obtained from parents/legal guardians for students under 18 alongside student assent; students aged 18 or above provided their own

written consent. Participation was strictly voluntary with the right to withdraw at any time. No personally identifying information was collected; responses were anonymized and stored on an encrypted device with access restricted to the research team. All procedures adhered to institutional guidelines and the **Declaration of Helsinki**.

Validity of the Instrument

Face and Content Validity: To ensure the instrument’s suitability, it was reviewed by a panel of five experts in educational psychology, psychometrics, and curriculum and instruction. The experts assessed the clarity, relevance, and cultural appropriateness of each item. Minor wording adjustments were made based on their feedback to enhance clarity and alignment with the Lebanese context.

Construct Validity: Construct validity was assessed by calculating Spearman’s correlation coefficients between each item and the total score of the scale. All items showed statistically significant correlations at the 0.01 level, indicating strong internal consistency.

Table (3): Spearman Correlation Coefficients between Items and the Total Score.

Item	r	Sig.	Item	r	Sig.
1	.473**	0.01	14	.532**	0.01
2	.448**	0.01	15	.284**	0.01
3	.428**	0.01	16	.456**	0.01
4	.557**	0.01	17	.494**	0.01
5	.549**	0.01	18	.619**	0.01
6	.464**	0.01	19	.626**	0.01

Item	<i>r</i>	Sig.	Item	<i>r</i>	Sig.
7	.464**	0.01	20	.543**	0.05
8	.617**	0.01	21	.306**	0.01
9	.545**	0.01	22	.641**	0.01
10	.621**	0.01	23	.521**	0.01
11	.666**	0.01	24	.596**	0.01
12	.574**	0.01	25	.542**	0.01
13	.602**	0.01	-	-	-

Reliability of the Instrument

Cronbach's Alpha: The Cronbach's Alpha coefficient for the self-esteem scale was **0.888**, exceeding the acceptable threshold of 0.70 and indicating excellent internal consistency.

Table (4): Cronbach's Alpha Reliability Coefficient.

Scale	No. of Items	Cronbach's Alpha
Self-Esteem	25	0.888

Split-Half Method: The Guttman Split-Half coefficient was **0.886**, further confirming the instrument's high reliability.

Table (5): Split-Half Reliability Coefficient.

Scale	Odd Items	Even Items	Guttman Coefficient
Self-Esteem	13	12	0.886

Summary of Validity and Reliability

The three forms of validity (face, content, and construct) confirm that the instrument is suitable for measuring self-esteem among adolescents in the study context. The high reliability coefficients (Cronbach's Alpha = 0.888; Guttman = 0.886) indicate strong internal consistency, making the scale

Table (6): Simple Linear Regression Results for Males.

Predictor	B	95% CI for B	β	<i>t</i>	<i>p</i>	<i>R</i>	<i>R</i> ²	<i>F</i>	<i>p</i> (model)
Educational track	3.25	[1.42, 5.07]	.46	3.53	.001	.46	.22	12.45	.001

Note. Coding: academic = 1, vocational = 0. Hudson items were reverse-keyed per the manual; higher composite scores indicate higher self-esteem. Two-tailed tests; $\alpha = .05$. Cohen's $f^2 \approx .27$.

Female Students: For female students, as shown in Table (7), the educational track explained **31.2%** of the variance in self-esteem ($R^2 = 0.312$), higher than in males, with statistical significance (Sig. = 0.000).

appropriate for application to the main study sample.

Statistical Analysis

Analyses followed a predictive-comparative plan. Within each gender, we first estimated stepwise multiple linear regression models; after preliminary screening, **educational track** remained the only significant predictor, so we report the final **simple linear regression** results for males and females separately. Model assumptions were examined and met: residual normality (Q-Q plots), homoscedasticity (residuals vs. fitted), and independence (Durbin-Watson). For interpretability, Hudson items were reverse-keyed per the manual and the composite was oriented so that **higher scores reflect higher self-esteem** (the original Hudson direction is the opposite). Coding was **academic = 1, vocational = 0**. We report **B, β , *t*, *p*, R^2 , 95% CI for B, and Cohen's f^2** (effect size; $f^2 = R^2/(1-R^2)$). Two-tailed tests used $\alpha = .05$.

Results and Analysis

Regression Results and Gender Differences in the Impact of Educational Track on Self-Esteem

Male Students: A simple linear regression analysis showed that the educational track explained **21.5%** of the variance in male students' self-esteem ($R^2 = 0.215$), a statistically significant result (Sig. = 0.001), as shown in Table (6).

Table (7): Simple Linear Regression Results for Females.

Predictor	B	95% CI for B	β	t	p	R	R^2	F	p (model)
Educational track	4.01	[2.19, 5.83]	.56	4.35	< .001	.56	.31	18.94	< .001

Note. Coding: academic = 1, vocational = 0. Hudson items were reverse-keyed per the manual; higher composite scores indicate higher self-esteem. Two-tailed tests; $\alpha = .05$. Cohen's $f^2 \approx .45$.

All analyses were conducted using **IBM SPSS Statistics (Version 27)**.

Discussion

Overview. The findings point to a consistent pattern: the **educational track** matters for adolescents' self-esteem, and the association is **stronger for females**. For males, track membership explained **21.5%** of variance in self-esteem ($R^2 = .215$, $p = .001$); for females, it explained **31.2%** ($R^2 = .312$, $p < .001$). These are medium (males) to medium-large (females) effects in practical terms, suggesting that track-related experiences carry substantial psychological weight during late adolescence (15–20).

RQ1: To what extent does the educational track (academic/vocational) predict adolescents' self-esteem?

Track membership was a statistically and practically meaningful predictor for both genders, with a stronger predictive contribution among females. This aligns with international evidence showing that academic environments often offer denser opportunities for recognition, mastery, and social visibility, which are known to feed self-worth in adolescence. For instance, studies report that when schools provide respectful climates, clear achievement pathways, and public acknowledgment of progress, students' self-esteem rises irrespective of background; when these conditions are absent—or socially undervalued, as sometimes occurs in vocational settings—self-esteem gains are muted (e.g., OECD, 2020; Chen et al., 2020).

Theoretical anchoring. From Erikson's psychosocial lens, the academic track may deliver more frequent “identity-confirming”

signals (grades, awards, university pathways), thereby consolidating a coherent sense of self in the *Identity vs. Role Confusion* stage. Through Maslow's hierarchy, the academic track may more reliably satisfy belonging and esteem needs (recognition, competence), which translates into higher self-esteem.

In Lebanon, public discourse has historically conferred greater prestige on the academic track, while vocational routes are still overcoming legacy stigma despite ongoing reforms. This symbolic hierarchy likely colors day-to-day interactions (teacher expectations, peer regard, parental messaging), making track labels psychologically consequential for adolescents.

RQ2: To what extent does gender predict adolescents' self-esteem?

Our inferential focus was on track prediction within each gender (as recommended by reviewers). Descriptively, the track effect was stronger among females ($R^2 = .312$ vs $.215$), which implies that gender shapes how track membership translates into self-esteem rather than exerting a large standalone effect. In other words, what *track placement means* for self-worth appears more pronounced for girls.

Why stronger for females? Prior work indicates that belonging, teacher feedback, and status cues are particularly salient for female adolescents' self-concept (Datu & Mateo, 2021). In local settings, academic success is often read as a marker of future security and social mobility for girls, which can magnify the esteem payoff of the academic track. Lebanese studies also show that self-esteem among youth is sensitive to family climate, psychological distress, and social appraisals (e.g., Obeid et al., 2019; Abou Yassin et al., 2022; Al-Musharaf et

al., 2022), factors that plausibly interact with school signaling to shape outcomes for girls more than boys.

Synthesis with literature. The current pattern dovetails with reports that gendered norms and school affordances co-produce esteem differences (Marsh et al., 2019; UNESCO, 2021). It also resonates with Lebanese evidence linking adolescents' self-concept to recognition and opportunity structures embedded in schooling (Sarouphim, 2011, 2020).

What do these results mean substantively?

Academic track advantage. The academic track's psychological "dividends" are visible for both genders but **larger for females**, likely because it more consistently delivers recognizable achievements and future-oriented signals (university access), which adolescents internalize as **proof of competence**.

Vocational track under-recognition. Vocational students develop valuable, market-relevant skills, yet the **esteem signaling** around these skills may be weaker. Without purposeful recognition (skills showcases, credentials with labor-market visibility, high-status apprenticeships), vocational competence may not fully convert into **felt self-worth**.

Age window matters. The **15–20** span is a liminal period—close enough to high-stakes transitions (graduation, work/college) that track labels become **identity statements**, not just administrative categories.

Alternative explanations and robustness

Selection effects. Convenience sampling and self-selection into tracks may produce compositional differences (e.g., prior grades, SES, parental expectations). While the observed effects are sizeable, they should be **interpreted cautiously** without covariate controls (future work should add SES, parental education, and school climate).

Measurement considerations. The **Hudson Self-Esteem Scale** exhibited strong validity (face/content/construct) and reliability ($\alpha = .888$; Guttman = .886). Still, **measurement invariance** across tracks/gender was not formally tested; future work could confirm that items function equivalently.

Cross-sectional design. The design does not establish causality. Longitudinal designs could test whether **track-related esteem gains** persist and whether improving recognition in vocational settings narrows the gap.

Practical implications (track-specific and gender-sensitive)

Elevate recognition in vocational tracks: formal micro-credentials, public skill demonstrations, employer-endorsed projects, and prize structures can make vocational competence **socially legible**, boosting esteem—especially for girls.

Identity-building in curricula: brief, track-agnostic modules on mastery experiences, goal setting, reflective portfolios, and peer-to-peer feedback can strengthen self-definition.

School–family alignment: counseling sessions that **normalize** vocational success stories and map **clear progression routes** (post-secondary diplomas, work-study, entrepreneurship) reduce stigma and improve adolescents' self-belief.

Teacher professional learning: training on **status-neutral feedback** and **strength-based advising** ensures that students in all tracks receive comparable esteem signals.

Concise concluding statement

Overall, the study advances a track-sensitive and gender-aware account of adolescent self-esteem in Lebanon: academic placement is associated with higher self-esteem, and this link is stronger for females. In theoretical terms, the results fit Erikson's identity-consolidation and Maslow's esteem-needs frameworks; empirically, they align with international and

Lebanese evidence emphasizing the role of recognition, belonging, and socially valued accomplishment. Practically, the findings argue for re-engineering the esteem signaling around vocational education so that its genuine competencies are matched by equally visible psychological rewards.

Recommendations

1. **Targeted supports & public recognition in vocational tracks** :Implement psychological–career counseling, structured feedback cycles, skills showcase, and **micro-credentials** to convert competence into visible esteem signals—with extra attention to girls.
2. **Identity-building modules (ages 15–20) across tracks** :Integrate short units on goal setting, mastery experiences, reflective portfolios, and academic–career road-mapping to strengthen self-definition regardless of track.
3. **Gender-responsive programming with school–family partnerships** :Design counseling that recognizes how boys and girls internalize track labels differently, and maintain organized communication with caregivers to counter stereotypes and align support.
4. **Teacher capacity for strength-based feedback** :Provide training on status-neutral language and belonging-enhancing classroom practices, with simple monitoring indicators to track improvements in students' self-esteem over the term.
5. **Evidence pipeline and generalization : Replicate** in other Lebanese districts and Arab contexts, test moderators (parental education, SES, school climate), and add longitudinal follow-up to identify when and for whom track effects on self-esteem are strongest—informing policy and program design.

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- **Ethics approval & consent:** *The study was conducted in accordance with institutional ethical standards. Administrative permissions were obtained from participating schools/institutes. Participation was voluntary with informed consent/assent.*
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