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The relationship between self-esteem and risky behaviors

A cross-sectional study of residents in Lublin Province, Poland

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Abstract

Risky behaviors are influenced by a variety of internal and external factors, including self-esteem, which reflects an individual's global evaluation of their worth. This study aimed to assess the relationship between self-esteem and risky behaviors among adults in Poland, examining how sociodemographic factors, including occupation and family background, contribute to these behaviors. This cross-sectional study was conducted from October to December 2023, involving 320 residents of Poland aged 16 to 68 years. Participants were selected through convenience sampling in public locations and surveyed using Rosenberg self-esteem scale and Zuckerman sensation seeking scale. Statistical analyses included the Mann–Whitney *U* test, Kruskal–Wallis test, Pearson correlation, and logistic regression to explore the relationships between self-esteem, risky behaviors, and sociodemographic variables, including interaction effects. Most participants demonstrated average self-esteem (41.56%) and low levels of risky behavior (55.94%). A weak positive correlation was observed between age and self-esteem ($R = 0.162$, $P = .004$), while risky behavior showed a negative correlation with age ($r = -0.279$, $P < .001$). Participants in nonmedical professions exhibited significantly higher risky behavior scores compared to those in medical professions ($P = .013$). Family history of alcohol addiction was associated with lower self-esteem ($P = .044$). Logistic regression analysis confirmed that higher self-esteem significantly reduced the likelihood of risky behaviors (odds ratio [OR] = 0.75, $P = .012$), while older age (OR = 0.92, $P < .001$) and working in a medical profession served as additional protective factors. In contrast, respondents in nonmedical professions showed a significantly higher tendency toward risk engagement (OR = 1.45, $P = .009$). A significant borderline interaction was observed between self-esteem and gender ($P = .061$). Higher self-esteem was associated with a reduced likelihood of engaging in risky behaviors, with age, occupation, and family history also influencing outcomes. These findings highlight the importance of promoting self-esteem, particularly among younger adults and those in high-risk occupations, as part of public health strategies. Future research should include mental health variables and explore targeted interventions to address both psychological and occupational contributors to risky behaviors.

Abbreviations: CI = confidence interval, OR = odds ratio, SES = self-esteem scale, SSS = sensation seeking scale.

Keywords: age factors, cross-sectional studies, mental health, occupational health, Poland, public health, risk-taking, self-esteem, sensation seeking, substance-related disorders

Informed consent was obtained from all subjects involved in the study.

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The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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1. Introduction

Risky behaviors are typically defined as actions that expose individuals to potential harm or undesirable outcomes. These behaviors are influenced by a combination of internal factors (such as impulsivity, emotional regulation, and personality traits, and external factors including peer pressure, family environment, and cultural norms).[1–4] Psychological models like social learning theory and the theory of planned behavior emphasize the role of learned responses and perceived control, while sociological theories (e.g., strain theory, anomie) highlight the impact of social stress and disintegration.[5–10]

Self-esteem, defined as an individual's global evaluation of self-worth, is closely tied to psychological functioning and behavioral choices.[11] High self-esteem is often linked to confidence and resilience, whereas low self-esteem may be associated with emotional vulnerability and risk-taking. Some studies suggest that excessively high or unstable self-esteem, especially when linked to narcissism, may also relate to impulsive behavior.[12–14] Thus, the relationship between self-esteem and risk-taking is complex and multifaceted.

Despite growing interest in this area, few studies have examined the connection between self-esteem and risky behaviors in the Polish context. Poland, like other Central and Eastern European countries, has experienced major sociocultural and economic shifts in recent decades, affecting mental health, education, and social structures. These transformations may influence both self-esteem formation and behavioral tendencies, making Poland a valuable yet underexplored setting for such research.

To operationalize the key constructs, the study employed 2 validated tools: Rosenberg self-esteem scale (SES) to assess global self-worth, and Zuckerman sensation seeking scale (SSS) to measure the propensity for risky behavior.

Therefore, this study aims to investigate the relationship between self-esteem and risky behaviors among adults in Lublin, Poland. Specifically, it explores how self-esteem is influenced by sociodemographic factors such as age, gender, place of residence, family structure, and educational and occupational background, and how these factors, in turn, contribute to the prevalence of risky behavior. The study also seeks to clarify the extent to which self-esteem functions as a protective or risk-enhancing factor in this behavioral context.

2. Materials and methods

2.1. Study design and participants

This cross-sectional study was conducted between October and December 2023 among residents of Lublin Province, Poland. The region has approximately 2.1 million inhabitants. The goal was to assess the relationship between self-esteem and risky behaviors, focusing on sociodemographic moderators.

Although the term "random sampling" was used initially, the actual recruitment method was convenience sampling. Participants were approached in public places such as shopping galleries, bus stops, and urban street areas and invited to take part based on availability and willingness. We acknowledge this limitation and clarify that the term "random" was used to describe the geographic and situational variety of recruitment locations, not statistical randomization.

A total of 320 participants were included, which, despite being modest, is sufficient for exploratory cross-sectional analysis with nonparametric methods. However, we recognize that the low base rate of high-risk behaviors in the general population means that only a limited number of participants may exhibit moderate to high levels of risky behavior. As such, results must be interpreted with caution and considered preliminary.

Participants were eligible if they were residents of Lublin Province and aged between 16 and 68 years. This wide age range was selected to explore potential age-related differences.

Trained interviewers used a standardized brief script to invite individuals to participate in the study. Participation was voluntary and anonymous. This was intended to reduce potential bias associated with incentive-based participation. However, due to developmental variability across age groups (e.g., adolescence vs adulthood), future studies should incorporate stratified or age-specific analyses. For this study, no minors participated without parental or legal guardian consent; for participants under 18, written consent was obtained from both the individual and their guardian.

The sample included individuals of various backgrounds in terms of education, occupation, and family circumstances, reflecting a heterogeneous population. While this diversity may dilute some subgroup effects, it provides a broader perspective for preliminary insight. Future studies should use stratified sampling or larger subgroups to improve internal validity.

The sample size (n = 320) was considered adequate for exploratory statistical analyses based on prior studies using nonparametric and logistic regression methods. However, given the relatively low base rate of high-risk behavior in the general population, the statistical power for subgroup analyses was limited. This is acknowledged in the Section 5.

2.2. Survey instruments

The study utilized 2 validated psychological tools: (1) the Rosenberg SES, adapted into Polish by Dzwonkowska, Lachowicz-Tabaczek, and Laguna,[15] and (2) the Zuckerman SSS, also validated for Polish samples.[16]

The Rosenberg SES includes 10 items rated on a four-point Likert scale (from "strongly agree" to "strongly disagree"). Scores range from 10 to 40, with higher scores indicating greater self-esteem. Results were interpreted based on percentile distribution and grouped into 5 categories: very low, low, average, high, and very high self-esteem.[17]

The Zuckerman SSS measures the tendency to engage in risky or novel experiences. It includes 4 subscales: thrill and adventure seeking, experience seeking, disinhibition, and boredom susceptibility. Participants responded to items using binary or Likert-type formats, with higher scores indicating a greater propensity for sensation-seeking behaviors. A composite score was calculated and categorized into 5 levels: very low, low, average, high, and very high.

2.3. Data collection procedures

Face-to-face surveys were conducted in public areas across urban and rural zones. Trained interviewers approached individuals, explained the study's purpose, obtained informed consent (or guardian co-consent for minors), and administered the questionnaires. Each survey session lasted approximately 15 minutes.

Although we aimed for demographic breadth, the sample was not stratified by age, sex, or education due to practical limitations. This limits subgroup inference and will be addressed in future work. Interviewers received standardized training to ensure consistency and reduce interviewer bias. In total, 320 complete and valid responses were included in the analysis.

2.4. Statistical analysis

Data were analyzed using Statistica 13.3 (TIBCO Software Inc., Palo Alto, 2017). Descriptive statistics (mean, standard deviation, median, min/max, and quartiles) were calculated. Qualitative variables were summarized as counts and percentages. Normality was assessed with the Shapiro–Wilk test. Given

the non-normal distribution of most variables, nonparametric tests were applied.

For group comparisons, the Mann–Whitney *U* test (two groups) and Kruskal–Wallis test (3 or more groups) were used. Post hoc analysis used Dunn test. Pearson correlation was used for continuous variables. Logistic regression was conducted to assess the influence of self-esteem and sociodemographic variables on the likelihood of high-risk behavior (dichotomized as high vs low/average risk). Independent variables included self-esteem, age, sex, place of residence, occupation, and family background. Significance was set at $P < .05$.

2.5. Ethical considerations

This study complied with the principles of the Declaration of Helsinki (latest revision: October 2024). Ethical approval was obtained from the Bioethics Committee of the Medical University of Lublin (Approval No. KE-12/03/2019). Written informed consent was obtained from all participants. For those under 18 years of age, written consent was also obtained from their legal guardians.

3. Results

The study included respondents aged 16 to 68 years, and the average age was 32.95 ± 11.26 years (n = 254, 79.38%). The largest number of respondents lived in rural areas (n = 125, 39.06%), slightly fewer in cities with up to 100,000 residents (n = 87, 27.19%), and the smallest in cities with >100,000 residents (n = 58, 18.12%) and suburban areas (n = 50, 15.63%). 85.63% of respondents came from a full family and 14.38% from a single-parent family.

More than half of the respondents admitted that addictions were present in their family (n = 178, 55.63%), including 43.44% who indicated smoking cigarettes, 19.38% alcohol, and 1.25% psychoactive drugs. Seven hundred seventy-seven respondents were studying, including 29.94% in medical school, 28.81% in high school or technical school, 25.42% in college, 12.99% in university, and 2.82% in medical college. Among the 197 working respondents, 57.36% had the medical profession, and 42.64% were in the nonmedical profession. Working respondents declared mostly higher education (n = 127, 64.47%), and less often secondary education (n = 70, 35.53%). The characteristics of the study group are shown in Table 1.

3.1. Self-esteem in the study group according to Rosenberg SES scale

Most respondents had an average self-esteem (n = 133, 41.56%). Those with high and very high self-esteem slightly outnumbered those with low and very low self-esteem (33.12% vs 25.31%). The average score of the Rosenberg SES scale was 29.98 ± 4.47 points, with 50% of the results falling within the 27 to 33 range. Overall, self-esteem in the group was average (Table 2).

Respondents' self-assessment does not significantly depend on sex ($P = .568$), place of residence ($P = .283$), background/family ($P = .638$), addictions in the family ($P = .818$), including smoking ($P = .996$) and taking psychoactive drugs ($P = .528$), occupation ($P = .627$), and education ($P = .430$). A weak positive correlation was found between age and self-esteem ($R = 0.162$, $P = .004$), indicating that self-esteem increases with age. Self-esteem was significantly lower in respondents with a family history of alcohol addiction ($P = .044$) and varied by educational institution ($P = .009$). Dunn post hoc test showed significant differences between students in high school/technical school and medical university ($P = .047$), with higher self-esteem in the latter group (Table 3).

3.2. Risky behaviors in the study group according to the Zuckerman SSS

Respondents most frequently displayed average (39.69%) or very low (34.06%) levels of risky behavior. About 1/5th had a low level (21.88%), while high (3.44%), and very high (0.94%) levels were rare. Thus, the general tendency for risk-taking in the sample was low. The average Zuckerman scale score was 4.86 ± 2.90. Half of the respondents had a score ≤5, and 75% ≤7 (Table 4).

No significant differences in risky behaviors were found by sex ($P = .249$), place of residence ($P = .074$), family background ($P = .113$), addictions in the family ($P = .455$), school/college ($P = .124$), or education level ($P = .650$). However, there was a negative correlation with age ($r = –0.279$, $P < .001$), suggesting that risky behavior declines with age. Respondents in nonmedical professions were significantly more likely to engage in risky behavior ($P = .013$) (Table 5).

3.3. Risky behavior and self-esteem in the study group

No statistically significant differences were found in self-esteem levels across different categories of risky behavior. Still, slightly lower self-esteem was observed in individuals with average levels of risky behavior (Me = 29.0). These findings are presented in Table 6.

3.4. Logistic regression analysis

A logistic regression model was conducted to identify predictors of risky behavior, adjusting for age, sex, place of residence, family background, and occupation. Higher self-esteem was significantly associated with lower odds of engaging in risky

Table 1

Demographic and sociocultural characteristics of the study population.

Variables	M ± SD	Me	Min–Max
Age	32.95 ± 11.26	34.0	16.0–68.0
		N	%
Sex	Women	254	79.38
	Men	66	20.63
Place of residence	Village	125	39.06
	Suburban areas	50	15.63
	City up to 100,000	87	27.19
	A city of >100,000	58	18.12
Family, background	Complete	274	85.63
	Incomplete	46	14.38
Addictions in the family	Yes	178	55.63
	No	142	44.38
Addiction in the family (alcohol)	Yes	62	19.38
	No	258	80.63
Addiction in the family (smoking cigarettes)	Yes	139	43.44
	No	181	56.56
Addiction in the family (psychoactive drugs)	Yes	4	1.25
	No	316	98.75
School/university (n = 177)	High school, technical school	51	28.81
	Medical College	5	2.82
	College	23	12.99
	Higher education institution	45	25.42
	Medical University	53	29.94
Occupation (n = 197)	Medical profession	113	57.36
	Nonmedical profession	84	42.64
Education (n = 197)	Secondary	70	35.53
	Higher	127	64.47

SD = standard deviation.

behavior (odds ratio [OR] = 0.75, 95% confidence interval [CI]: 0.58–0.94, $P = .012$). Age was also inversely associated with risky behavior (OR = 0.92, 95% CI: 0.88–0.96, $P < .001$), indicating that older individuals were less likely to engage in such behaviors. Additionally, individuals in nonmedical professions were more likely to report risky behaviors compared to those in medical professions (OR = 1.45, 95% CI: 1.11–1.91, $P = .009$).

An extended model including interaction terms revealed a marginal interaction effect between self-esteem and gender ($P = .061$), suggesting that the protective role of self-esteem against risky behavior may differ slightly by gender. However, no significant interaction was found between self-esteem and family history of addiction ($P = .413$). These findings suggest that self-esteem functions as a general protective factor across demographic subgroups, though future studies with larger samples are needed to examine moderation effects more conclusively.

Given the low proportion of participants with high-risk behavior scores, the stability and generalizability of regression estimates should be interpreted with caution. The limited number of high-risk cases may affect model precision and increase the risk of overfitting. These results should be considered exploratory and require replication in larger, more targeted samples.

The full results of the logistic regression analysis are presented in Table 7.

4. Discussion

This study aimed to assess levels of self-esteem and risky behavior among residents of Lublin Province, Poland, using 2 validated instruments: Rosenberg SES self-esteem scale and Zuckerman SSS.[15–17] The results indicated that most participants exhibited average self-esteem, and the overall level of risky behavior in the sample was low. Self-esteem increased slightly with age,[18,19] and individuals in nonmedical professions were more likely to report higher levels of risky behavior. Logistic regression further confirmed that both self-esteem (OR = 0.75, $P = .012$) and age (OR = 0.92, $P < .001$) were significant protective factors against risky behavior, while nonmedical professions increased the likelihood of risk engagement (OR = 1.45, $P = .009$).

Although group comparisons revealed no statistically significant differences in self-esteem across risk behavior levels, the regression model identified self-esteem as a significant predictor when accounting for multiple covariates. This suggests that the protective influence of self-esteem may be more evident when analyzed in relation to other variables, rather than in isolation.

Table 2

Distribution of self-esteem levels in the study population according to Rosenberg SES scale.

			Descriptive statistics						
Self-assessment according to Rosenberg SES scale	**N**	**%**	**M**	**SD**	**Me**	**Q1**	**Q3**	**Min**	**Max**
Very low	14	4.38	29.98	4.47	30.0	27.0	33.0	10.0	40.0
Low	67	20.94							
Average	133	41.56							
High	84	26.25							
Very high	22	6.87							

SD = standard deviation, SES = self-esteem scale.

Table 3

Self-esteem scores across sociodemographic variables in the study population.

Variable		**Rosenberg SES scale**	**Test statistic**	***P*-value**
Age (Pearson correlation)		$R = 0.162$	$t = 2.919$	.004
Sex	Woman	Me = 30.0, Q1–Q3: 27.0–33.0	$Z = 0.571$	.568
	Man	Me = 29.50, Q1–Q3: 27.0–33.0		
Place of residence	Village	Me = 30.0, Q1–Q3: 27.0–32.0	$H = 3.804$	.283
	Suburban areas	Me = 31.0, Q1–Q3: 28.0–34.0		
	City up to 100,000.	Me = 30.0, Q1–Q3: 27.0–33.0		
	A city of more than 100,000.	Me = 29.50, Q1–Q3: 27.0–33.0		
Family, background	Complete	Me = 30.0, Q1–Q3: 27.0–33.0	$Z = 0.471$	.638
	Incomplete	Me = 30.0, Q1–Q3: 26.0–33.0		
Addictions in the family	Yes	Me = 30.0, Q1–Q3: 27.0–33.0	$Z = -0.230$	.818
	No	Me = 30.0, Q1–Q3: 28.0–33.0		
Addiction in the family (alcohol)	Yes	Me = 28.0, Q1–Q3: 27.0–32.0	$Z = -2.015$	.044
	No	Me = 30.0, Q1–Q3: 28.0–33.0		
Addiction in the family (smoking cigarettes)	Yes	Me = 30.0, Q1–Q3: 27.0–33.0	$Z = 0.005$	.996
	No	Me = 30.0, Q1–Q3: 28.0–33.0		
Addiction in the family (psychoactive drugs)	Yes	Me = 28.0, Q1–Q3: 26.0–32.0	$Z = -0.631$	.528
	No	Me = 30.0, Q1–Q3: 27.0–33.0		
School/university (n = 177)	High school, technical school	Me = 29.0, Q1–Q3: 25.0–30.0	$H = 13.503$	.009
	Medical College	Me = 36.0, Q1–Q3: 30.0–37.0		
	College	Me = 30.0, Q1–Q3: 27.0–34.0		
	Higher education institution	Me = 30.0, Q1–Q3: 28.0–33.0		
	Medical University	Me = 29.0, Q1–Q3: 28.0–33.0		
Occupation (n = 197)	Medical profession	Me = 30.0, Q1–Q3: 28.0–34.0	$Z = 0.486$	.627
	Nonmedical profession	Me = 31.0, Q1–Q3: 28.0–33.0		
Education (n = 197)	Secondary	Me = 30.0, Q1–Q3: 28.0–33.0	$Z = -0.789$	.430
	Higher	Me = 31.0, Q1–Q3: 28.0–34.0		

SES = self-esteem scale.

Table 4

Risky behavior levels in the study population according to Zuckerman sensation seeking scale.

Level of risky behavior according to Zuckerman scare	N	%	Descriptive statistics						
			M	SD	Me	Q1	Q3	Min	Max
Very low	109	34.06	4.86	2.90	5.0	2.50	7.0	0.0	12.0
Low	70	21.88							
Average	127	39.69							
High	11	3.44							
Very high	3	0.94							

SD = standard deviation.

Table 5

Risky behavior scores across sociodemographic variables in the study population.

Variable		Zuckerman scale	Test statistics	*P*-value
Age (Pearson correlation)		*r* = -0.279	*t* = -5.173	<.001
Sex	Woman	Me = 5.0, Q1–Q3: 3.0–7.0	*Z* = -1.153	.249
	Man	Me = 6.0, Q1–Q3: 2.0–7.0		
Place of residence	Village	Me = 4.0, Q1–Q3: 2.0–7.0	*H* = 6.950	.074
	Suburban areas	Me = 5.0, Q1–Q3: 3.0–7.0		
	City up to 100,000.	Me = 6.0, Q1–Q3: 3.0–7.0		
	A city of more than 100,000.	Me = 5.0, Q1–Q3: 3.0–7.0		
Family, background	Complete	Me = 5.0, Q1–Q3: 2.0–7.0	*Z* = -1.587	.113
	Incomplete	Me = 5.0, Q1–Q3: 3.0–8.0		
Addictions in the family	Yes	Me = 5.0, Q1–Q3: 3.0–7.0	*Z* = 0.747	.455
	No	Me = 5.0, Q1–Q3: 2.0–7.0		
Addictions in the family (alcohol)	Yes	Me = 5.0, Q1–Q3: 3.0–7.0	*Z* = -0.261	.794
	No	Me = 5.0, Q1–Q3: 2.0–7.0		
Addictions in the family (smoking cigarettes)	Yes	Me = 5.0, Q1–Q3: 3.0–7.0	*Z* = 0.471	.638
	No	Me = 5.0, Q1–Q3: 2.0–7.0		
Addictions in the family (psychoactive drugs)	Yes	Me = 7.0, Q1–Q3: 5.50–8.50	*Z* = 1.479	.139
	No	Me = 5.0, Q1–Q3: 2.0–7.0		
School/university (n = 177)	High school, technical school	Me = 5.0, Q1–Q3: 2.0–7.0	*H* = 7.228	.124
	Medical college	Me = 7.0, Q1–Q3: 1.0–7.0		
	College	Me = 4.0, Q1–Q3: 1.0–7.0		
	Higher education institution	Me = 5.0, Q1–Q3: 6.0–8.0		
	Medical University	Me = 5.0, Q1–Q3: 4.0–7.0		
Occupation (n = 197)	Medical profession	Me = 4.0, Q1–Q3: 1.0–6.0	*Z* = 2.495	.013
	Nonmedical profession	Me = 6.0, Q1–Q3: 3.0–8.0		
Education (n = 197)	Secondary	Me = 4.0, Q1–Q3: 2.0–7.0	*Z* = 0.454	.650
	Higher	Me = 4.0, Q1–Q3: 2.0–7.0		

Table 6

Association between self-esteem and risky behaviors in the study population.

Level of risky behavior according to the Zuckerman scale	Self-assessment according to Rosenberg SES scale								Kruskal–Wallis test	
	N	M	SD	Me	Q1	Q3	Min	Max	*H*	*P*
Very low	109	29.84	4.03	30.0	27.0	32.0	14.0	40.0	5.417	.144
Low	70	30.84	4.62	30.50	28.0	30.50	18.0	40.0		
Average	127	29.54	4.70	29.0	27.0	29.0	10.0	40.0		
High, very high	14	30.57	4.73	30.0	29.0	30.0	21.0	38.0		
Total	320	29.98	4.47	30.0	27.0	30.0	10.0	40.0		

SD = standard deviation, SES = self-esteem scale.

Interestingly, self-esteem did not vary significantly by sex, place of residence, family structure, or education. This pattern may reflect that self-esteem is more strongly shaped by internal psychological processes and life experiences, such as personality traits, perceived competence, and resilience, than by demographic factors. Prior research supports this idea, linking stable self-esteem development to self-concept clarity, autonomy, and emotional regulation rather than socioeconomic status or educational level.[18,19]

A substantial portion of respondents (55.63%) reported the presence of addiction in their family, most commonly smoking or alcohol use. While addictions in general were not associated with significant differences in self-esteem, a family history of alcohol abuse was linked to lower self-esteem ($P = .044$). This finding is in line with previous research indicating that adverse family environments may negatively influence the development of self-worth and coping styles.[18,19]

Regarding risky behaviors, most respondents scored in the very low to average range, and high-risk behavior was rare. This is consistent with previous findings that risk-taking tends to be more prevalent in specific high-exposure contexts or

Table 7

Logistic regression analysis for predictors of risky behavior.

Variable	Odds ratio (OR)	95% confidence interval (CI)	*P*-value
Self-esteem	0.75	0.58–0.94	.012
Age	0.92	0.88–0.96	<.001
Sex (male)	1.12	0.88–1.42	.330
Place of residence	0.98	0.76–1.28	.873
Family history of alcohol	2.21	0.93–1.56	.144
Nonmedical profession	1.45	1.11–1.91	.009

CI = confidence interval.

populations.[13] Respondents in medical professions demonstrated significantly lower risk behaviors than those in nonmedical roles ($P = .013$), possibly due to increased awareness of health consequences or the behavioral regulation imposed by professional standards.[20]

Age showed a dual influence, positively correlated with self-esteem and negatively correlated with risky behavior. These effects may reflect psychosocial maturation over time, where older individuals demonstrate greater emotional stability, life satisfaction, and behavioral regulation.[19] Interventions targeting adolescents and young adults could be especially impactful in fostering self-esteem and reducing maladaptive behaviors.

These findings carry meaningful implications for healthcare and public health. Educational and preventive programs aimed at promoting self-esteem, particularly among youth and individuals in nonmedical occupations, may help reduce risk-prone behaviors.[21,22] Such programs could integrate cognitive-behavioral strategies and socio-emotional learning to enhance resilience and self-worth. The observed relationship between self-esteem and risky behavior also underscores the importance of addressing family risk factors. Programs supporting families affected by addiction may have an indirect yet positive influence on youth development and behavioral outcomes.[23–26]

It is important to acknowledge that the distribution of risky behavior in the study was skewed, with most respondents reporting average or low levels of such behavior. This imbalance may limit the generalizability of the findings, particularly to populations with higher exposure to risk or different behavioral profiles. The underrepresentation of individuals exhibiting high-risk behavior may have reduced the sensitivity of subgroup comparisons and could have influenced the precision of regression estimates. Consequently, the results should be viewed as exploratory, and future studies should include more behaviorally diverse or targeted samples to strengthen external validity.

Finally, while the study did not directly examine mental health conditions such as anxiety or depression, these are known to intersect with both self-esteem and risk behaviors.[20,21] Future studies should integrate mental health assessments to better understand their mediating or moderating roles.

Evidence from intervention studies supports the effectiveness of such approaches. For instance, Sandilos et al demonstrated that universal social-emotional learning programs led to improvements in self-esteem and reduced behavioral problems among students by enhancing emotional regulation and self-awareness.[21] Similarly, Steenkamp et al found that interventions focused on self-esteem and achievement needs were associated with lower levels of risk-taking propensity in young adults.[22] These examples suggest promising directions for future public health strategies that aim to reduce risky behavior by strengthening internal psychological resources like self-esteem.

To summarize, this study contributes to the understanding of how self-esteem, age, and occupational status relate to risky behavior. While risky behaviors were uncommon, certain sociodemographic variables, particularly occupational field, were influential. The results support the role of self-esteem as a protective psychological factor and suggest directions for targeted health promotion initiatives.

5. Limitations

This study has several limitations that should be considered when interpreting the results. First, the research was conducted exclusively among residents of the Lublin Province in Poland. While the region includes both urban and rural populations, the findings may not be generalizable to the entire Polish population or to populations in other countries with different cultural, social, or healthcare contexts. Future research should consider cross-cultural and nationally representative samples to improve external validity.

Second, although initial recruitment aimed for randomness in geographic coverage, the actual sampling strategy relied on convenience sampling in public spaces. This may have introduced selection bias, as individuals who were available and willing to participate may differ systematically from those who declined, potentially underrepresenting individuals with lower self-esteem or higher levels of risky behavior. As a result, the sample may not fully reflect the true distribution of these traits in the broader population.

Third, the relatively low prevalence of high-risk behaviors in the sample limited the statistical power for detecting subgroup differences. This may have also affected the stability and precision of estimates in the regression models, increasing the risk of overfitting and wide confidence intervals. Findings related to high-risk behavior categories should therefore be interpreted with caution and considered exploratory. Future studies should aim for larger and more targeted samples to ensure adequate representation of high-risk individuals.

Fourth, the reliance on self-reported measures introduces the risk of response bias, especially given the sensitive nature of the topics addressed, such as family addiction history and engagement in risky behaviors. Social desirability or recall bias may have influenced responses, despite assurances of anonymity.

Fifth, the cross-sectional nature of the study limits the ability to infer causal relationships between self-esteem and risky behavior. Longitudinal designs would allow for tracking changes over time and better understanding of the directionality between psychological traits and behavioral outcomes.

Sixth, the study did not control for potential confounding variables such as personality traits, psychological distress, or mental health diagnoses, which could mediate or moderate the observed relationships. Incorporating validated measures for these constructs in future research would provide a more comprehensive model.

Lastly, although we used standardized and widely accepted tools, the Rosenberg SES and Zuckerman SSS, they may not fully capture the multidimensional and culturally contextual nature of self-esteem and risk-taking. Future research should consider supplementing quantitative data with qualitative interviews to explore personal narratives and motivations underlying these behaviors.

6. Conclusions

The findings of this study indicate a clear relationship between self-esteem and risky behaviors among adults. Higher self-esteem was generally associated with lower levels of risky behavior, suggesting that self-perception plays a key role in behavioral regulation. Furthermore, individuals working in the medical profession demonstrated significantly lower levels of risky conduct compared to those in nonmedical fields, likely due to the ethical responsibilities and structured environments that characterize medical professions.

The overall low levels of risky behavior observed among the residents of Lublin Province may also be attributed to individual predispositions and life experiences, which influence behavioral tendencies. These results provide valuable insights that can inform the development of effective educational programs aimed at reducing risky behaviors. Such programs could focus on enhancing self-esteem, particularly among younger populations and those in high-risk professions. In addition, promoting interventions such as bystander awareness and the empowerment of individuals who witness risky behavior could further contribute to risk reduction in various social contexts.

Beyond mental health considerations, future research should explore how policy changes, such as workplace regulations or public safety campaigns, could address risky behaviors at a systemic level. Educational programs that foster resilience and build self-esteem from an early age could be implemented as preventive measures. Moreover, research into how different professions regulate behavior could provide insights for developing targeted interventions tailored to occupational risk.

The findings underscore the importance of considering both individual and professional factors when designing public health interventions aimed at mitigating risky behaviors. Future efforts should build on these insights to create targeted strategies that not only address risky behaviors but also bolster self-esteem as a protective factor.

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