Archives of Current Research International

Volume 25, Issue 9, Page 138-151, 2025; Article no.ACRI.143128
ISSN: 2454-7077

Mapping Career Guidance Opportunities for Senior Secondary Students: A Comparative Study Across Three Indian States

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

DOI: https://doi.org/10.9734/acri/2025/v25i91483

Open Peer Review History:
This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: https://pr.sdiarticle5.com/review-history/143128

Original Research Article

Received: 06/07/2025
Published: 03/09/2025

ABSTRACT

Career guidances opens doors to informed choices, helping individuals align their strengths with the right professional paths. It empowers students and professionals to explore diverse industries, understand trends and set achievable goals. The purpose of the study was to investigate the relationship between career guidance opportunities and career decision making among 900 senior secondary students across socio-cultural zones of three states viz. Punjab, Haryana and Uttarakhand. A self-structured career guidance opportunities checklist was used to assess career decision making levels of the career guidance opportunities checklist. The findings indicated that

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Cite as: *Nishita Singh, Deepika Vig, and Asha Chawla Thakral. 2025. "Mapping Career Guidance Opportunities for Senior Secondary Students: A Comparative Study Across Three Indian States". Archives of Current Research International 25 (9):138–151. https://doi.org/10.9734/acri/2025/v25i91483.*

overall higher proportion of the respondents reported a moderate level of career guidance across all the regions of the three states. The highest proportion of respondents from Punjab, irrespective of the genders, had received moderate level of career guidance except for the boys of Majha reporting high career guidance. Similar results were also found across all the regions of Haryana and Uttarakhand except for the girls in Garhwal region receiving high level of career guidance.

Keywords: Career guidance; students; career decision making; career counselling.

1. INTRODUCTION

Senior secondary school, which usually includes Classes 11 and 12, is a crucial time in a student's intellectual and personal development. At this point, students must make important choices about their future plans, career objectives, and further education. The decisions students make, such as choosing a particular field of study, getting ready for entrance examinations, or applying to universities, frequently have a long-term effect on how their careers develop (Aithal and Kumar, 2016. At this point, career counseling becomes an essential support structure that provides empowerment, clarity, and direction (OECD, 2004; UNESCO, 2002).

Career options in today's fast-paced and dynamic world have greatly surpassed those in more conventional fields like teaching, engineering, and medical. Digital marketing, artificial intelligence, environmental studies, entrepreneurship, the performing arts, social innovation, and many other emerging fields are now accessible to students due to technological advancements, globalization, and the emergence of new industries (Roberts, 2009; Schwab, 2016). Although this growth opens up fascinating new possibilities, it also adds complication and ambiguity. According to Toppo (2024), many students are not aware of these many alternatives or are uncertain about how their academic interests might be connected with professional opportunities.

The process of assisting students in understanding who they are—their values, interests, abilities, and strengths—and matching these to appropriate career paths is known as career guidance. Aptitude and interest exams, personality tests, one-on-one counseling, group seminars, job fairs, alumni interactions, and professional mentoring are just a few of the many resources and services that are used. Through these interventions, students can establish a more structured plan for their future, investigate professional choices they may not have thought of, and become more aware of their potential (Whiston et al., 2017; Osborn et al., 2020; Watts & Sultana, 2004).

The capacity of good career counseling to promote well-informed decision-making is one of its main benefits. Students are more likely to make academic and professional decisions that fit with their interests and long-term objectives when they are led through a customized process of investigation and introspection (Patel & D'mello, 2024). Higher motivation, improved academic achievement, and a clearer feeling of purpose follow from this. Research has demonstrated that students are more involved, tenacious, and successful in their studies when their academic trajectories align with their individual objectives and identities (Oyserman & Destin, 2010; Minges & Rohrer, 2023).

Additionally, addressing equity and access disparities in schooling requires career counseling. Lack of exposure, a lack of role models, and limited access to information are some of the difficulties that students from underserved schools, rural locations, or marginalized communities sometimes encounter. These students can have equal opportunity to explore and realize their ambitions through focused career guidance programs provided by government programs, NGOs, online platforms, or schools (Singh & Chopra, 2023).

In order to prepare students for the future of work, which is being impacted by technology, automation, and the demand for multidisciplinary skills more and more, career counseling is also crucial (World Economic Forum, 2020). Modern career coaching places more emphasis on the development of transferable skills including communication, problem-solving, adaptability, and digital literacy than it does on obtaining a specific job or degree (OECD, 2019; UNESCO, 2021). According to Hooley et al. (2011), it assists students in comprehending not only "what" they wish to achieve but also "why" and "how" they might thrive in a world economy that is changing quickly.

Career counseling is an essential component of comprehensive education and is neither a luxury nor a one-time intervention (UNESCO, 2021). Timely and careful career counseling can be the difference between ambiguity and clarity, passive decision-making and empowered choices for senior secondary students, who are at a pivotal point in their academic journey. By funding extensive career counseling programs, we give our children the skills, information, and self-assurance they need to create successful, satisfying, and meaningful futures.

2. METHODOLOGY

2.1 Sample

The study was conducted in socio-cultural z ones of three states of Punjab, Haryana and Uttarakhand. The three sociocultural zones of Punjab are Majha, Malwa, and Doaba. The state of Haryana is divided into five sociocultural zones viz. Ahirwal, Mewat, Bagar, Nardak, and Khadar. Uttarakhand has two socio-cultural zones viz. Garhwal and Kumaon. From each socio-cultural zone, a list of all the districts was prepared. Based on the number of districts in each socio-cultural zone, proportionate number of cities were identified i.e. 5 cities from Punjab, 5 cities from Haryana and 4 cities from Uttarakhand to have a representative data from all the districts of each state. From all the selected cities, required number of government and private senior secondary schools were randomly selected till the sample of 900 students with Arts was completed (300 from each state). Further the 300 students from each state were divided into equal number of 150 boys and 150 girls with Arts stream was selected. The Fig. 1 shows the diagrammatic representation of the sample selection.

2.2 Research Tools

A self- structured career guidance checklist was used. It was used for assessing the availability of career guidance opportunities for urban boys and girls from three states. It was used to enquire about the availability of general assistance in the form of teachers' guidance for vocational and competitive exams; career counselling sessions, guest lectures, availability of coaching institutes including distance of institutes from home; their fees structure; easy accessibility; staff qualification, overall ranking of the institute, availability of cyber cafes and book shops. Initially 25 statements were framed to cover all the aspects of career guidance opportunities, however, after inputs from the experts the number of statements was decreased to 11. The following indicates the score ranges for the evaluation of Career Guidance perceived by high and low achievers. The reliability of the scale was calculated using split-half method and it was found to be 0.82

Chart 1. Scores of career guidance opportunities at three levels

Level of career guidance opportunities	Ranges of scores
Low	11-14
Moderate	15-18
High	19-22

2.3 Pretesting

Both Punjabi and English versions of the questionnaires were pretested on 20 non-sampled senior secondary students with Arts stream were randomly selected from Government Senior Secondary Smart School, PAU, Ludhiana. According to the respondents, every statement from each questionnaire was simple to understand.

2.4 Statistical Analysis

The obtained data was analyzed using SPSS version 23 software. Frequency, percentage and Z-test were employed to get the results from collected data.

2.5 Data Collection

To obtain the desired sample size, the students with arts stream were included in the study. A total number of 900 senior secondary students were selected, ensuring equal representation of boys and girls. Before filling out the questionnaires, the students were provided important instructions such as type of statements and guided them about how the questionnaires were to be filled. The questionnaires were handed over to the students and necessary assistance was provided. The collected data was filled on Microsoft Excel sheet and was analysed with the help of SPSS 23 software.

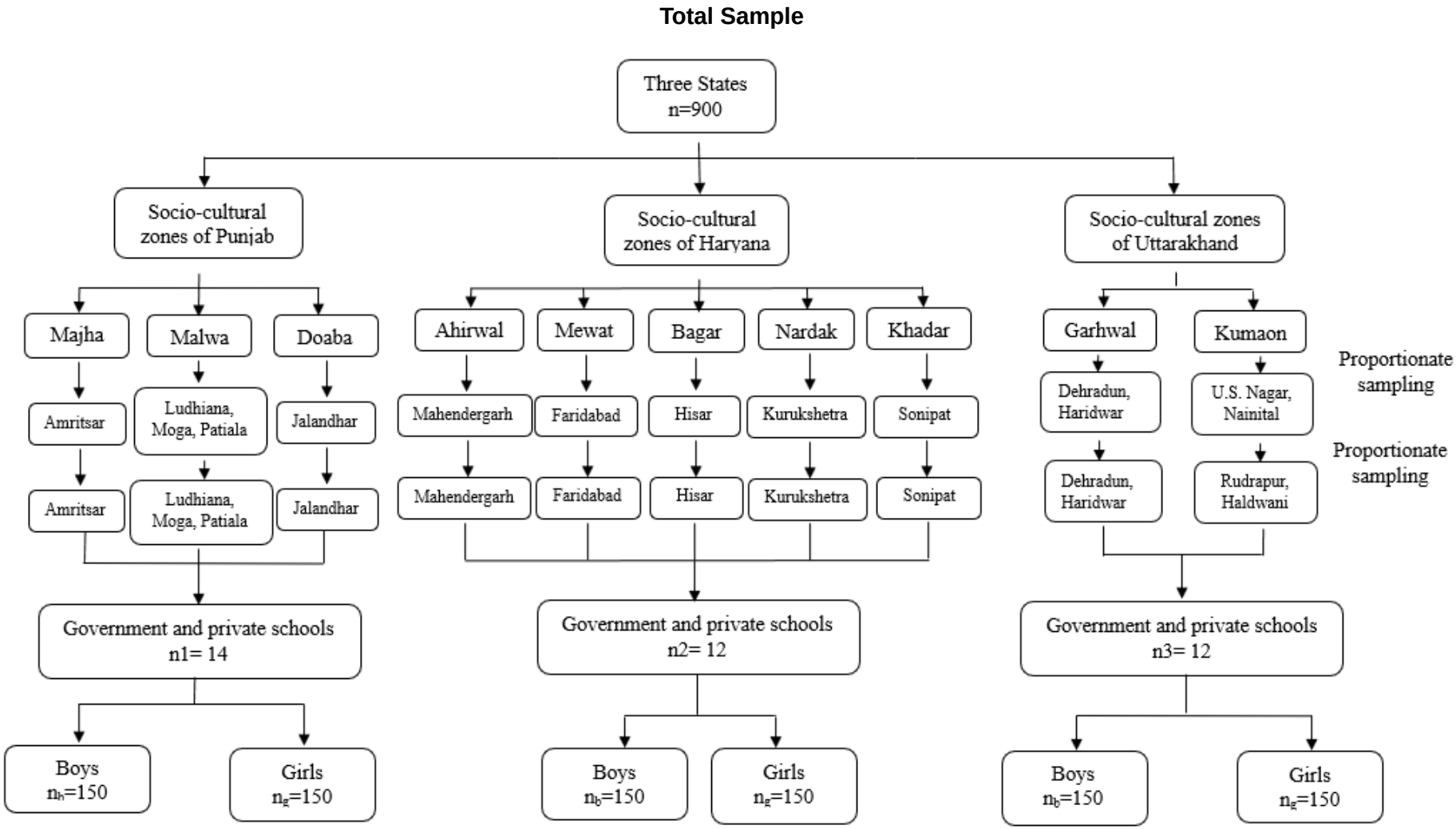

Fig. 1. The schematic presentation of the sample selection

3. RESULTS AND DISCUSSION

The Table 1 depicts the percent distribution of senior secondary school students across three states as per career guidance opportunities.

For levels of opportunities, the highest proportion of respondents reported having a moderate level of opportunities across all the regions. The respondents of Punjab reported moderate levels of opportunities in Doaba at 53.33 per cent, followed by Malwa with 51.67 per cent and Majha at 46.67 per cent whereas a proportion of students also reported a high level of opportunities in Malwa with 45.56 per cent, followed by Majha at 45.00 per cent and Doaba at 43.33 per cent.

In Haryana, majority of respondents from Ahirwal at 85.00 per cent, followed by Bagar with 83.33 per cent, Khadar at 68.33 per cent, Mewat at 61.67 per cent and Nardak at 50.00 per cent. In Uttarakhand, more number of respondents from Kumaon zone that is 60.67 per cent and 52.67 per cent of respondents from Garhwal reported moderate level of opportunities whereas a proportion of respondents of Garhwal at 43.33 per cent followed by Kumaon at 33.33 per cent reported high level of opportunities.

In case of counselling sessions, highest proportion of the respondents had attended less than 2 sessions across all regions. In Punjab, respondents from Majha that is 53.33 per cent, followed by Malwa at 46.11 per cent and Doaba at 45.00 per cent.

In Haryana, majority of students from Ahirwal and Mewat at 91.67 per cent and 90.00 per cent, respectively, followed by Khadar at 58.33 per cent and Nardak at 48.33 per cent reported less than 2 counselling sessions. But in case of Bagar region (65.00%) in respondents had attended 2 to 4 counselling sessions provided by schools. In Uttarakhand, respondents of Kumaon that is 84.00 per cent followed by Garhwal at 72.67 per cent reported less than 2 counselling sessions.

The Guest Speakers invited by schools in the last six months, in Haryana, the highest participation come from passout students particularly in Mewat with 86.67 per cent. IAS/IPS officers as guest speakers were active in Malwa zone (19.44 %) from Punjab and Nardak zone (18.33%) from Haryana.

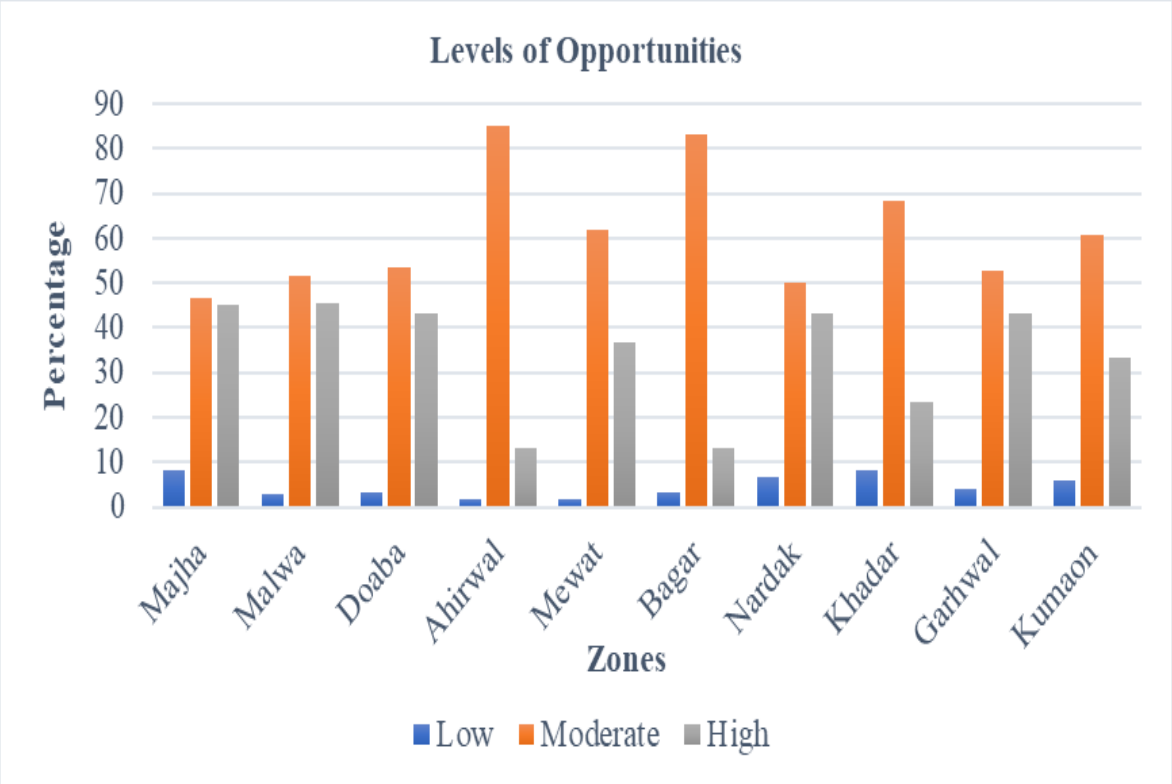

Fig. 2. Percent distribution of senior secondary school students across three states as per levels of opportunities

Table 1. Percent distribution of senior secondary school students across three states as per career guidance opportunities (n=900)

Career guidance opportunities	Punjab (n_p= 300)				Haryana (n_h= 300)				Uttarakhand (n_u= 300)	
	Majha (n_1=60)	Malwa (n_2=180)	Doaba (n_3=60)	Ahirwal (n_4=60)	Mewat (n_5=60)	Bagar (n_6=60)	Nardak (n_7=60)	Khadar (n_8=60)	Garhwal (n_9=150)	Kumaon (n_{10}=150)
	f (%)	*f* (%)	*f* (%)	*f* (%)	*f* (%)	*f* (%)	*f* (%)	*f* (%)	*f* (%)	*f* (%)
Levels of opportunities										
Low	5 (8.33)	5 (2.78)	2 (3.33)	1 (1.67)	1 (1.67)	2 (3.33)	4 (6.67)	5 (8.33)	6 (4.00)	9 (6.00)
Moderate	28 (46.67)	93 (51.67)	32 (53.33)	51 (85.00)	37 (61.67)	50 (83.33)	30 (50.00)	41 (68.33)	79 (52.67)	91 (60.67)
High	27 (45.00)	82 (45.56)	26 (43.33)	8 (13.33)	22 (36.67)	8 (13.33)	26 (43.33)	14 (23.33)	65 (43.33)	50 (33.33)
Counselling sessions										
Less than 2	32 (53.33)	83 (46.11)	27 (45.00)	55 (91.67)	54 (90.00)	3 (5.00)	29 (48.33)	35 (58.33)	109 (72.67)	126 (84.00)
2 to 4	24 (40.00)	76 (42.22)	24 (40.00)	4 (6.67)	6 (10.00)	39 (65.00)	23 (38.33)	15 (25.00)	34 (22.67)	23 (15.33)
More than 4	4 (6.67)	21 (11.67)	9 (15.00)	1 (1.67)	0 (0.00)	18 (30.00)	8 (13.33)	10 (16.67)	7 (4.67)	1 (0.67)
Guest speakers (Last 6 months)										
Pass out Students	15 (25.00)	33 (18.33)	9 (15.00)	12 (20.00)	52 (86.67)	0 (0.00)	15 (25.00)	14 (23.33)	55 (36.67)	55 (36.67)
Celebrity	2 (3.33)	8 (4.44)	4 (6.67)	0 (0.00)	0 (0.00)	0 (0.00)	1 (1.67)	1 (1.67)	4 (2.67)	2 (1.33)
IAS/IPS officer	1 (1.67)	35 (19.44)	7 (11.67)	7 (11.67)	1 (1.67)	7 (11.67)	11 (18.33)	4 (6.67)	25 (16.67)	11 (7.33)
Teachers from coaching institutes	4 (6.67)	25 (13.89)	14 (23.33)	3 (5.00)	0 (0.00)	49 (81.67)	17 (28.33)	12 (20.00)	11 (7.33)	16 (10.67)
Any other	14 (23.33)	66 (36.67)	23 (38.33)	5 (8.33)	0 (0.00)	1 (1.67)	5 (8.33)	7 (11.67)	27 (18.00)	7 (4.67)
None	24 (40.00)	13 (7.23)	3 (5.00)	33 (55.00)	7 (11.66)	3 (5.00)	11 (18.34)	22 (36.66)	28 (18.66)	59 (39.33)
Availability of coaching institutes										
No institute	21 (35.00)	53 (29.44)	19 (31.67)	39 (65.00)	19 (31.67)	18 (30.00)	29 (48.33)	27 (45.00)	64 (42.67)	89 (59.33)
Upto 5	22 (36.67)	102 (56.67)	30 (50.00)	15 (25.00)	32 (53.33)	12 (20.00)	19 (31.67)	22 (36.67)	62 (41.33)	55 (36.67)
More than 5	17 (28.33)	24 (13.33)	11 (18.33)	6 (10.00)	9 (15.00)	30 (50.00)	12 (20.00)	11 (18.33)	24 (16.00)	6 (4.00)

Table 2. Gender-wise percent distribution of adolescents as per their career guidance opportunities in Punjab (n_p= 300)

Career guidance opportunities	Majha (n_1=60)		Malwa (n_2=180)		Doaba (n_3=60)	
	Boys	Girls	Boys	Girls	Boys	Girls
	f (%)	*f* (%)	*f* (%)	*f* (%)	*f* (%)	*f* (%)
Levels of opportunities						
Low	2 (6.67)	3 (10.00)	3 (3.33)	2 (2.22)	1 (3.33)	1 (3.33)
Moderate	12 (40.00)	16 (53.33)	47 (52.22)	46 (51.11)	15 (50.00)	17 (56.67)
High	16 (53.33)	11 (36.67)	40 (44.44)	42 (46.67)	14 (46.67)	12 (40.00)
Counselling sessions						
Less than 2	17 (56.67)	15 (50.00)	49 (54.44)	34 (37.78)	13 (43.33)	14 (46.67)
2 to 4	13 (43.33)	11 (36.67)	34 (37.78)	42 (46.67)	11 (36.67)	13 (43.33)
More than 4	0 (0.00)	4 (13.33)	6 (6.67)	13 (14.44)	6 (20.00)	3 (10.00)
Guest speakers (Last 6 months)						
Pass out Students	5 (16.67)	10 (33.33)	16 (17.78)	17 (18.89)	8 (26.67)	1 (3.33)
Celebrity	2 (6.67)	0 (0.00)	5 (5.56)	3 (3.33)	3 (10.00)	1 (3.33)
IAS/IPS officer	1 (3.33)	0 (0.00)	22 (24.44)	13 (14.44)	3 (10.00)	4 (13.33)
Teachers from coaching institutes	1 (3.33)	3 (10.00)	10 (11.11)	15 (16.67)	4 (13.33)	10 (33.33)
Any other	8 (26.67)	6 (20.00)	31 (34.44)	35 (38.89)	11 (36.67)	12 (40.00)
None	18 (60.00)	21 (70.00)	22 (24.45)	24 (26.67)	9 (30.00)	3 (10.00)
Availability of coaching institutes						
No institute	8 (26.67)	13 (43.33)	40 (44.44)	13 (14.44)	11 (36.67)	8 (26.67)
Upto 5	14 (46.67)	8 (26.67)	38 (42.22)	64 (71.11)	14 (46.67)	16 (53.33)
More than 5	8 (26.67)	9 (30.00)	11 (12.22)	13 (14.44)	5 (16.67)	6 (20.00)

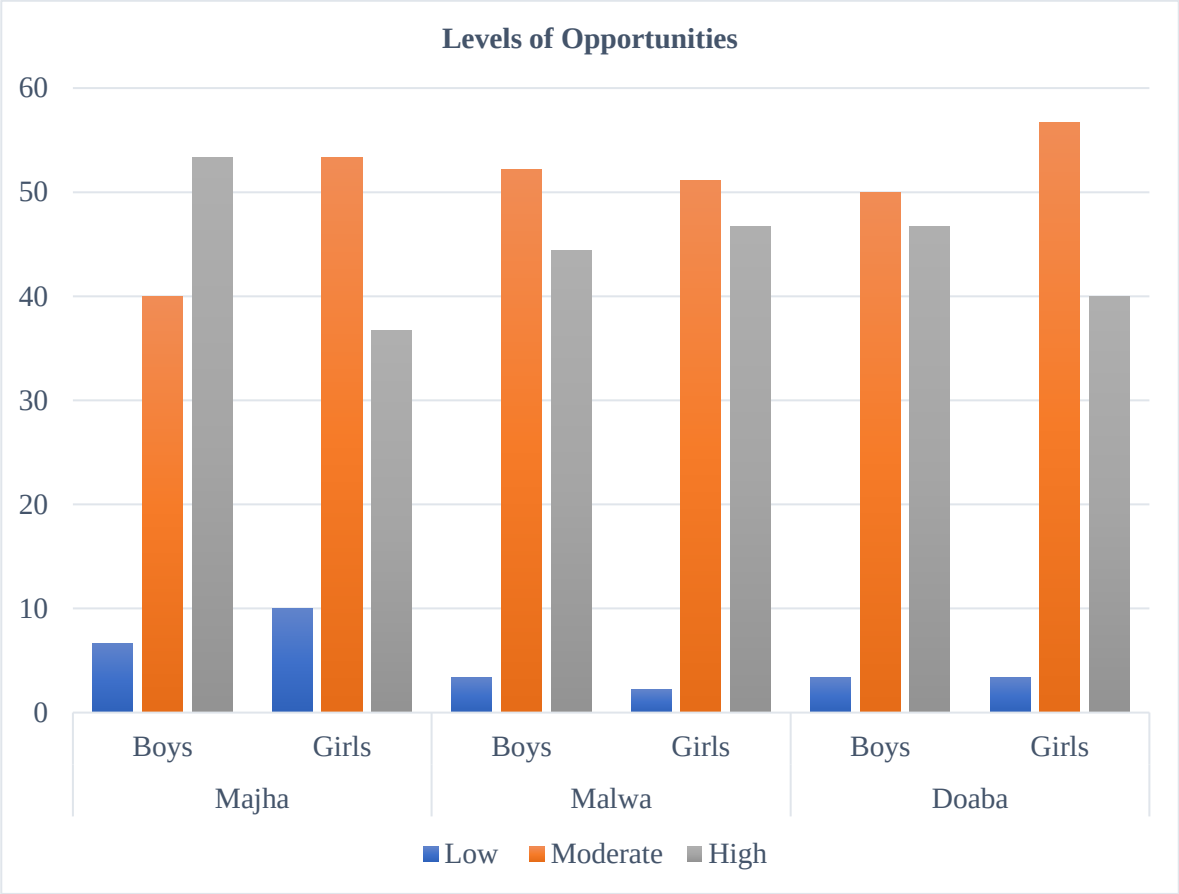

Fig. 3. Gender-wise percent distribution of adolescents as per their levels of opportunities in Punjab

Teachers from coaching institutes were more active in Haryana's Bagar (81.67%). Additionally, any other guest speakers like professors from colleges, managers from corporate industry, career counsellors etc. were more prevalent in Malwa (36.67%) and Doaba (38.33%) regions of Punjab.

The availability of coaching institutes were reported as that there were no institute present in the locality of the respondents from Ahirwal (65.00%), Nardak (48.33%) and Khadar (45.00%) in Haryana and Kumaon (59.33%) and Garhwal (42.67%) regions of Uttarakhand.

A major proportion of respondents from Punjab's Majha (36.67%), Malwa (56.67%) and Doaba (50.00%); Mewat (53.33%) from Haryana reported upto 5 institutes were present in the locality whereas nearly half of the respondents from Bagar region (50.00%) of Haryana reported to have more than 5 institutes.

The Table 2 reveals the gender-wise percent distribution of adolescents as per their career guidance opportunities in Punjab.

For levels of opportunities, in Malwa, the trend was more balanced, with 44.44% of boys and 46.67% of girls reported high level of opportunities. However, slightly more boys (52.22%) fall in the moderate category as compared to girls (51.11%). Doaba also followed a similar pattern, with 46.67 per cent of boys and 40.00 per cent of girls reported high level of opportunities whereas more girls (56.67%) fall into the moderate category as compared to boys (50.00%). The trends of Majha showed that 53.33 per cent of boys and 36.67 per cent of girls reported high level of opportunities whereas, 53.33 per cent of girls and 40.00 per cent of boys reported moderate level of opportunities.

In terms of counselling sessions, a proportion of students in all three regions receive fewer than two sessions. This was particularly high in Majha, where 56.67 per cent of boys and 50.00 per cent

of girls fall into this category. Malwa follows closely, with 54.44 per cent of boys and 37.78 per cent of girls receiving fewer than two sessions. Doaba presents a slightly better scenario, with 43.33 per cent of boys and 46.67 per cent of girls receiving less than two sessions. Attending 2 to 4 sessions was reported by 43.33 per cent of boys and 36.67 per cent of girls in Majha, 37.78 per cent of boys and 46.67 per cent of girls in Malwa, and 36.67 per cent of boys and 43.33 per cent of girls in Doaba.

Regarding guest speakers, in Majha, girls (33.33%) had more exposure to pass-out students compared to boys (16.67%), IAS/IPS officers were more frequently invited in Malwa (24.44% boys, 14.44% girls) as compared to Majha and Doaba. Interestingly, teachers from coaching institutes were more commonly reported in Doaba with 33.33 per cent of girls and 13.33 per cent of boys than in the other regions.

In terms of the availability of coaching institutes, a considerable proportion of students reported no access in their locality. This included 26.67 per cent of boys and 43.33 per cent of girls in Majha, 44.44 per cent of boys and 14.44 per cent of girls in Malwa, and 36.67 per cent of boys and 26.67 per cent of girls in Doaba. Coaching institutes numbering up to 5 were available to 46.67 per cent of boys and 26.67 per cent of girls in Majha, whereas in Malwa, access was significantly higher for both boys (42.22%) and especially girls (71.11%). In Doaba, 46.67 per cent of boys and 53.33 per cent of girls reported access to up to 5 institutes.

The Table 3 depicts the gender-wise percent distribution of adolescents as per their career guidance opportunities in Haryana.

In terms of levels of opportunities, the moderate level was the most common across all regions, particularly in Ahirwal, where 80.00 per cent of boys and 90.00 per cent of girls reported moderate opportunities. Similarly, in Bagar, both boys and girls (83.33%) shared this perception. Khadar also showed high percentages with 63.33 per cent of boys and 73.33 per cent of girls indicating moderate opportunities. Mewat displayed slightly lower values with 66.67 per cent of boys and 56.67 per cent of girls in this category, while Nardak 70.00 per cent of girls reported moderate opportunities, whereas Nardak boys stood out, with 60.00 per cent reported high level of opportunities.

For counselling sessions, a majority of students in Ahirwal and Mewat received fewer than two counselling sessions, with Ahirwal reporting 90.00 per cent of boys and 93.33 per cent of girls, and Mewat showing 86.67 per cent of boys and 93.33 per cent of girls in this category. In contrast, Bagar presents a more positive scenario.

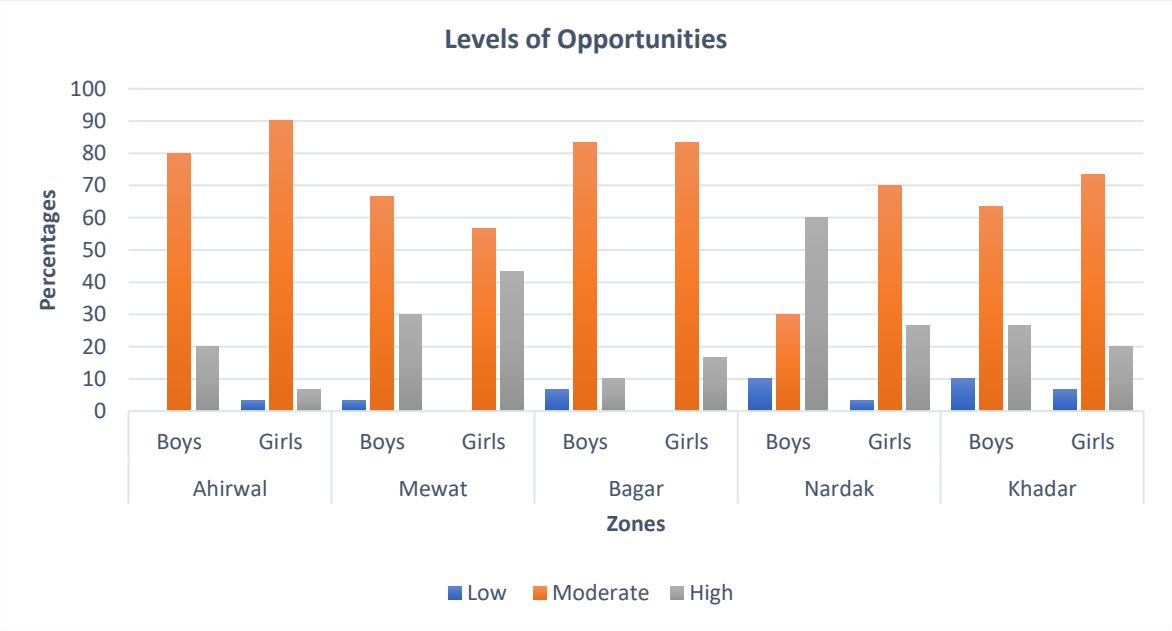

Fig. 4. Gender-wise percent distribution of adolescents as per their level of opportunities in Haryana

Table 3. Gender-wise percent distribution of adolescents as per their career guidance opportunities in Haryana (n_h= 300)

Career guidance opportunities	Ahirwal (n_4=60)		Mewat (n_5=60)		Bagar (n_6=60)		Nardak (n_7=60)		Khadar (n_8=60)	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
	f (%)	*f* (%)	*f* (%)	*f* (%)	*f* (%)	*f* (%)	*f* (%)	*f* (%)	*f* (%)	*f* (%)
Levels of opportunities										
Low	0 (0.00)	1 (3.33)	1 (3.33)	0 (0.00)	2 (6.67)	0 (0.00)	3 (10.00)	1 (3.33)	3 (10.00)	2 (6.67)
Moderate	24 (80.00)	27 (90.00)	20 (66.67)	17 (56.67)	25 (83.33)	25 (83.33)	9 (30.00)	21 (70.00)	19 (63.33)	22 (73.33)
High	6 (20.00)	2 (6.67)	9 (30.00)	13 (43.33)	3 (10.00)	5 (16.67)	18 (60.00)	8 (26.67)	8 (26.67)	6 (20.00)
Counselling sessions										
Less than 2	27 (90.00)	28 (93.33)	26 (86.67)	28 (93.33)	2 (6.67)	1 (3.33)	11 (36.67)	18 (60.00)	21 (70.00)	14 (46.67)
2 to 4	2 (6.67)	2 (6.67)	4 (13.33)	2 (6.67)	19 (63.33)	20 (66.67)	16 (53.33)	7 (23.33)	7 (23.33)	8 (26.67)
More than 4	1 (3.33)	0 (0.00)	0 (0.00)	0 (0.00)	9 (30.00)	9 (30.00)	3 (10.00)	5 (16.67)	2 (6.67)	8 (26.67)
Guest speakers (Last 6 months)										
Pass out students	4 (13.33)	8 (26.67)	26 (86.67)	26 (86.67)	0 (0.00)	0 (0.00)	7 (23.33)	8 (26.67)	10 (33.33)	4 (13.33)
Celebrity	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	1 (3.33)	0 (0.00)	1 (3.33)	0 (0.00)
IAS/IPS officer	2 (6.67)	5 (16.67)	1 (3.33)	0 (0.00)	4 (13.33)	3 (10.00)	6 (20.00)	5 (16.67)	1 (3.33)	3 (10.00)
Teachers from coaching institutes	3 (10.00)	0 (0.00)	0 (0.00)	0 (0.00)	23 (76.67)	26 (86.67)	6 (20.00)	11 (36.67)	3 (10.00)	9 (30.00)
Any other	3 (10.00)	2 (6.67)	0 (0.00)	0 (0.00)	0 (0.00)	1 (3.33)	3 (10.00)	2 (6.67)	3 (10.00)	4 (13.33)
None	18 (60.00)	15 (50.00)	3 (10.00)	4 (13.33)	3 (10.00)	0 (0.00)	7 (23.33)	4 (13.33)	12 (40.00)	10 (33.33)
Availability of coaching institutes										
No institute	17 (56.67)	22 (73.33)	12 (40.00)	7 (23.33)	10 (33.33)	8 (26.67)	11 (36.67)	18 (60.00)	14 (46.67)	13 (43.33)
Upto 5	7 (23.33)	8 (26.67)	14 (46.67)	18 (60.00)	9 (30.00)	3 (10.00)	13 (43.33)	6 (20.00)	13 (43.33)	9 (30.00)
More than 5	6 (20.00)	0 (0.00)	4 (13.33)	5 (16.67)	11 (36.67)	19 (63.33)	6 (20.00)	6 (20.00)	3 (10.00)	8 (26.67)

Table 4. Gender-wise percent distribution of adolescents as per their career guidance opportunities in Uttarakhand (n_u= 300)

Career guidance opportunities	Garhwal (n_9=150)		Kumaon (n_{10}=150)	
	Boys	Girls	Boys	Girls
	f (%)	*f* (%)	*f* (%)	*f* (%)
Levels of opportunities				
Low	3 (4.00)	3 (4.00)	4 (5.33)	5 (6.67)
Moderate	50 (66.67)	29 (38.67)	46 (61.33)	45 (60.00)
High	22 (29.33)	43 (57.33)	25 (33.33)	25 (33.33)
Counselling sessions				
Less than 2	63 (84.00)	46 (61.33)	59 (78.67)	67 (89.33)
2 to 4	11 (14.67)	23 (30.67)	16 (21.33)	7 (9.33)
More than 4	1 (1.33)	6 (8.00)	0 (0.00)	1 (1.33)
Guest speakers (Last 6 months)				
Pass out Students	32 (42.67)	23 (30.67)	16 (21.33)	39 (52.00)
Celebrity	1 (1.33)	3 (4.00)	0 (0.00)	2 (2.67)
IAS/IPS officer	10 (13.33)	15 (20.00)	5 (6.67)	6 (8.00)
Teachers from coaching institutes	4 (5.33)	7 (9.33)	10 (13.33)	6 (8.00)
Any other	8 (10.67)	19 (25.33)	3 (4.00)	4 (5.33)
None	20 (26.67)	8 (10.67)	41 (54.67)	18 (24.00)
Availability of coaching institutes				
No institute	36 (48.00)	28 (37.33)	40 (53.33)	49 (65.33)
Upto 5	27 (36.00)	35 (46.67)	34 (45.33)	21 (28.00)
More than 5	12 (16.00)	12 (16.00)	1 (1.33)	5 (6.67)

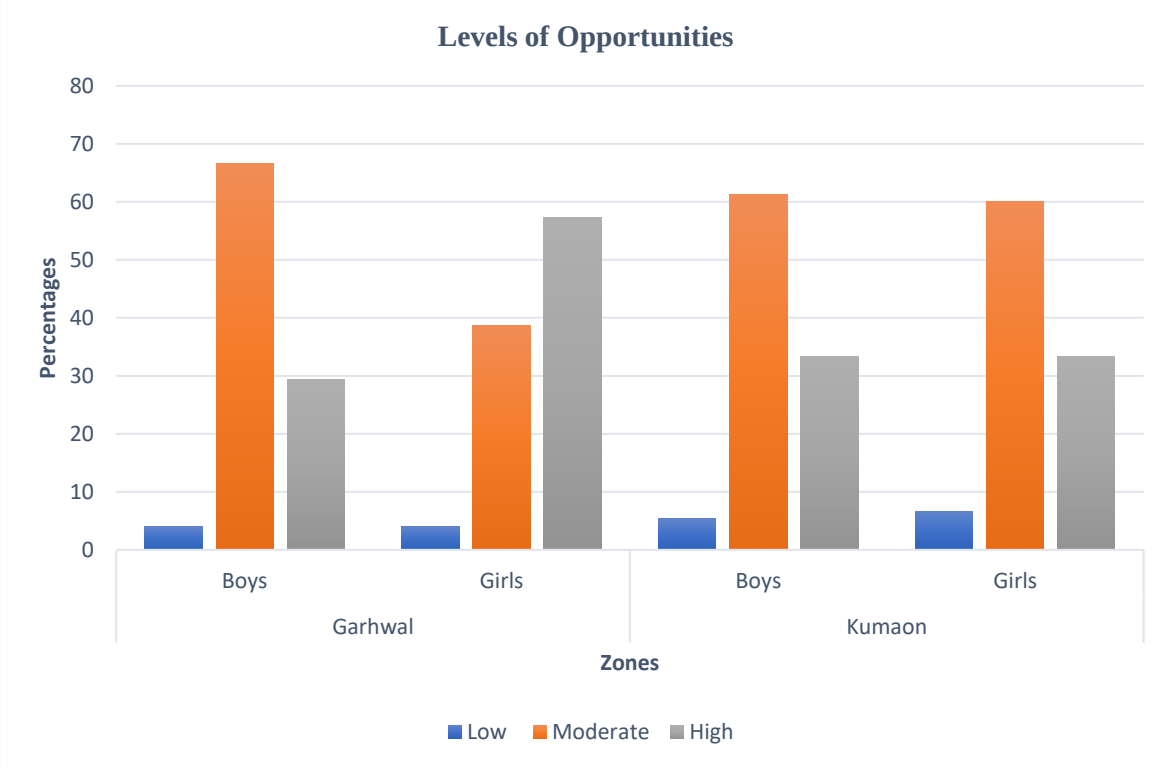

Fig. 5. Gender-wise percent distribution of adolescents as per their level of opportunities in Uttarakhand

A proportion 63.33 per cent of boys and 66.67 per cent of girls attended 2 to 4 sessions, while 30.00 per cent of both boys and girls received more than four sessions. Nardak girls with 60.00 per cent had fewer than two sessions. Meanwhile, 53.33 per cent of boys attended 2 to 4 sessions. In zone Khadar, 70.00 per cent of boys received fewer than two sessions.

For the guest speakers, in Mewat, both boys and girls that is 86.67 per cent had exceptionally high exposure to pass-out students, significantly more than in other regions. IAS/IPS officers were most frequently invited in Nardak as reported by 20 per cent boys and 16.67 per cent girls, followed by Ahirwal 16.67 percent of girls.

Teachers from coaching institutes were reported most prominently in Bagar, where 76.67 per cent of boys and 86.67 per cent of girls interacted with them. Nardak and Khadar also had notable engagement, particularly among girls (36.67% in Nardak and 30% in Khadar).

The Table 4 depicts the gender-wise percent distribution of adolescents as per their career guidance opportunities in Uttarakhand.

For levels of opportunities, in Garhwal, more number of boys that is 66.67 per cent reported having moderate level of opportunities, but high level of opportunities was more in girls that is 57.33 per cent. Conversely, in Kumaon, both boys (61.33%) and girls (60.00%) had relatively equal access to moderate level of opportunities.

Regarding the counselling sessions, in Garhwal, 84 per cent of boys and 61.33 per cent of girls attended less than two sessions, whereas in Kumaon, the numbers were even higher, with 78.67 per cent of boys and 89.33 per cent of girls receiving minimal counselling support.

In terms of guest speakers, in Garhwal, a proportion of boys that is 42.67 per cent and girls that is 30.67 per cent reported that pass-out students were invited as guest speakers, whereas in Kumaon, this trend was reversed, with more girls that is 52.00 per cent benefiting from interactions with alumni. IAS/IPS officers were more frequently invited in Garhwal as reported by 13.33 per cent of boys and 20.00 per cent of girls, compared to Kumaon.

In terms of availability of coaching institutes, both regions faced significant limitations in availability. In Garhwal, 48.00 per cent of boys and 37.33 per cent of girls reported having no coaching institutes, while in Kumaon, the issue was more severe, with 53.33 per cent of boys and 65.33 per cent of girls lacking access. The availability of up to five coaching institutes was better in Garhwal, where 36.00 per cent of boys and 46.67 per cent of girls had access, compared to Kumaon, where only 45.33 per cent of boys and 28.00 per cent of girls had similar facilities.

4. CONCLUSION

In conclusion, while a moderate level of career guidance opportunities exists for senior secondary students across Punjab, Haryana, and Uttarakhand, access to structured support—such as counselling sessions, guest speaker interactions, and coaching institutes—remains uneven and frequently inadequate. Stark gender and regional disparities persist, particularly in areas like Majha (Punjab), Ahirwal and Mewat (Haryana), and Kumaon (Uttarakhand), where girls often face limited access to guidance resources.

Despite these challenges, students consistently exhibit high levels of engagement when such opportunities are made available, underscoring the transformative potential of well-designed career guidance programs. To foster equitable and meaningful career development, it is imperative to strengthen and scale these support systems—ensuring that every student, regardless of gender or geography, receives consistent, inclusive, and effective career guidance.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:
The peer review history for this paper can be accessed here:
https://pr.sdiarticle5.com/review-history/143128