POLITECNICO DI TORINO
Repository ISTITUZIONALE

Balance4Better: “We Are HERe” More Than a Gender Campaign

Original
Balance4Better: “We Are HERe” More Than a Gender Campaign / Ballatore, M.G., De Giorgi, C., Montorsi, A., Tabacco, A. (LECTURE NOTES IN EDUCATIONAL TECHNOLOGY). - In: Women in STEM in Higher Education. Good Practices of Attraction, Access and Retainment in Higher EducationSTAMPA. - [s.l] : Spriger, 2022. - ISBN 978-981-19-1551-2. - pp. 85-97 [10.1007/978-981-19-1552-9_5]

Availability:
This version is available at: 11583/2972468 since: 2022-12-15T14:33:16Z

Publisher:
Spriger

Published
DOI:10.1007/978-981-19-1552-9_5

Terms of use:

This article is made available under terms and conditions as specified in the corresponding bibliographic description in the repository

Publisher copyright

(Article begins on next page)

19 November 2026

Chapter 5
Balance4Better: "We Are HERe" More Than a Gender Campaign



Maria Giulia Ballatore, Claudia De Giorgi, Arianna Montorsi, and Anita Tabacco

Abstract Achieving gender equality and empowering all women and girls are part of the ultimate global challenge (Goal 5 of SDGs). The gender balance in STEM education is a challenge that has both horizontal and vertical dimensions. This paper focuses only on the first one. Politecnico di Torino, an Italian technical university with Engineering and Architectural courses, has a long history of attraction campaigns aiming to reduce the gender gap in its engineering enrolment. Despite these efforts, more remains to be done for the student population and high-level academic positions. During the academic year 2018/19, considering the engineering first-year enrolled students (around 4500), 25% were female, and a new innovative project was set, "WeAreHERe". This campaign aims to introduce a new vision to overcome both recruitment and retention: the female students become the main actors of the project by a guided training that let establish them as fresh role models. The use of social media and new technology support this storytelling and reach a variety of Italian girls. In this paper, the structure of "WeAreHERe" is described with some data analysis of its impact.

Keywords Attraction campaign · Gender gap · STEM education · Social communication

M. G. Ballatore (✉) · A. Tabacco
Department of Mathematical Sciences 'G.L. Lagrange', Politecnico Di Torino, Turin, Italy
e-mail: maria.ballatore@polito.it

A. Tabacco
e-mail: anita.tabacco@polito.it

C. De Giorgi
Department of Architecture and Design, Politecnico Di Torino, Turin, Italy
e-mail: claudia.degiorgi@polito.it

A. Montorsi
Department of Applied Science and Technology, Politecnico Di Torino, Turin, Italy
e-mail: arianna.montorsi@polito.it

© The Author(s) 2022

F. J. García-Peñalvo et al. (eds.), *Women in STEM in Higher Education*, Lecture Notes in Educational Technology, https://doi.org/10.1007/978-981-19-1552-9_5

5.1 Introduction

Higher education' attraction campaigns are a complex and structured mixture of activities and services devoted to recruitment students and serving the future job market. This play becomes even more crucial once it addresses STEM education. Here particular attention must be driven to equality, diversity, and inclusion. An inclusive attraction to STEM fields gives the basis to make the dream of a balanced future with equal opportunities come true. In this paper, we describe the "We are HERe" strategy that is in place at Politecnico di Torino, Italy starting from Spring 2019. This slogan is more than just an attraction campaign. It involves students and alumni directly and becomes the training set of young professionals to work together and experience the benefit of a balanced work environment. This paper aims to highlight the key feature of a successful experience reinforced by qualitative analysis. More precisely, we identify as crucial elements to evaluate the impact of the campaign the number of enrolled girls, the dropout rate, and the surveys' results.

Next paragraph pictures the political and socio-economical context we are in. We then describe the "We are HERe" project composition. The results and discussion support the theoretical approach used with observations and surveys results. In the end, we conclude by describing the future plans.

5.2 Context

State of the Art

One of the goals established to foster a more sustainable world is gender equality, as stated in goal 5 of SDGs: "Gender equality is not only a fundamental human right but a necessary foundation for a peaceful, prosperous and sustainable world" (United Nations, 2019). The gender balance in STEM is part of this challenge, and it has a double dimension: horizontal and vertical (Fulcher & Coyle, 2011). Scientists and politicians developed many different frameworks regarding the vertical balance to study what influences the career in STEM and how to support a balanced environment in academia (Bührer et al., 2019; Wolffram et al., 2017) and in the industry (Beede et al., 2011; González-González et al., 2018; Lambrecht & Tucker, 2019; Sassler et al., 2017). A large-scale longitudinal study in the USA found out that after 12 years from graduation, around 50% of women had left their job in the STEM field. Comparing these figures with the general one, the work shift cannot be linked to family factors.

In contrast, the work environment and the related job characteristics emerged as the key features (Glass et al., 2013). However, family factors play a role in the recruitment stage because STEM careers are perceived to fight with one's family goals (Weisgram & Diekman, 2015). This fact explains why having a woman family member in the STEM field favours girls' STEM interests (Cowgill et al., 2021).

Therefore, the horizontal gap represents the crucial "leaky pipeline" that needs to be overcome today to support future career changes.

Looking at the horizontal segregation, it is essential to distinguish recruitment from the retention campaign one. The first one refers to reinforcement on the attraction of young girls in the field, while the second aims to increase the retention of those already enrolled in a STEM and support their entrance into the labour market. Those are typically addressed with various strategies, and it is easy to mix the two campaigns. Steele has highlighted the importance of "rendering onto the right students the right intervention" (Steele & Aronson, 1995). For example, role models are valuable and effective in both moments. However, for the recruitment phase, it is important to have female role models (Makarova et al., 2019), while for retention, one can have both male and female role models to reach the desired goal (European Union, 2018). In recruitment, both the intrinsic and extrinsic motivations of the women concerning their academic decision have a dominant role. At the same time, in retention, the rationale mostly comes from personal stimulus and experiences. A review on the instruments used to study the gender gap in STEM stated that the main variables in these motivations are: influence established by this decision and the education path, the related achievements, the recommendations and work of parents, the stereotyped ideas they have towards this sector (Verdugo-Castro et al., 2019). Another factor that one must consider is the attitude towards STEM that can be measured by the spatial ability and, in particular, by the mental rotation factor, as shown in a longitudinal study of over 50 years (Wai et al., 2009).

How to translate all this input into a coherent and appropriately effective campaign? Many institutions have tried to answer this question through case studies (Garcia-Holgado et al., 2019; Politecnico di Torino, 2019), projects (Ballatore et al., 2020a; García-Holgado et al., 2020a), and events (Wyred, 2019). Currently, attraction campaigns use different media to foster a more balanced field, from the more traditionalist type (i.e., conferences, speech) to more interactive ones (i.e., summer schools, hackathons). Recently the technology has been used to spread the message among the youngest easily (García-Holgado et al., 2020b). Although the majority tend to forget the importance of increasing the retention of enrolled women, only a few experiences have been scientifically analysed (Gomez Soler et al., 2020). In general, the emphasis placed directly on the issue of the gender gap during the mediated strategy and, in particular, during events appears relevant. It is essential to make women feel welcome and not to emphasise the vertical dimension of the gender gap (ceiling effect, salary mismatch, and so on) in order not to have the opposite effect (Drury et al., 2011).

Local Context

Politecnico di Torino, an Italian technical university with Engineering and Architectural courses, has a long history of attraction campaigns aiming to reduce the gender gap in its engineering enrolment (Politecnico di Torino, 2002). The first woman who graduated in engineering in Italy was at Politecnico di Torino. Her name was Emma Strada, and it was in 1908. She was also the founder and the first president of AIDA, the Italian Association of Women Engineers and Architects. Despite these

efforts, more remains to be done for the student population and high-level academic positions.

Considering the horizontal dimension, in its Strategic Plan "Polito4impact", presented in 2018, Politecnico has included a set of specific objectives to raise the average percentage of female students enrolled in the first year of engineering programs to over 35% and achieve full gender equality to some degree programs by 2024 (Politecnico di Torino, 2018). In that academic year (2018/19), considering the engineering first-year enrolled students (around 4600), about 25% were female, higher than the national one (23,8%). For further details, Figs. 5.3 and 5.4 report the historical series from 2015/16 to 2020/21.

Politecnico di Torino establishes a new vision to boost the girls' attraction. Instead of organising an unstructured series of events dedicated to young females, the idea is to have them as main actors. That is, regarding the retention, to create a female network of students in engineering that supports girls in career decisions through their testimony and the use of fresh content, proposed through media and new technologies. This shift will create "real" and "young" role models and ensure peer-to-peer interaction for the recruitment campaign.

5.3 "WeAreHERe" Campaign

History

The university established a completely new structure to reach the ambitious goals stated in Politecnico's strategic plan, the Equality@PoliTo. This new organisation fosters a new vision regarding horizontal segregation: the campaign should be more organic, address the target audience correctly and take advantage of social media. To do so, it seems essential to directly involve students in the creation of the new strategy. Therefore, on the occasion of the women's day (March 8th, 2019), a 24 h hackathon among our students was launched, SheHacks@Polito (Politecnico di Torino, 2019). This event was meant to convey the best suggestions for a campaign on these themes directly from the students' population. The winning project was "WeAreHERe", whose double meaning title perfectly reveals the purpose of the new desired vision. "We are her" and "we are here" at Politecnico, meaning that the best testimonials for enrolling new female students in Engineering are our female students themselves. This idea allows the recruitment actions to merge with the retention ones (see Table 5.1). By training our students, we reinforce our community allowing them to become the main actors as mentors of the recruitment stage and indirectly support them in a self-awareness path of the unique role they play in the field (retention phase).

Methodology

The attraction campaign focuses first on female students in the 14–18 age group. Several factors have suggested that such a group might be oriented towards STEM studies, but some fears hold back their choice. As an example, the analysis of the

Table 5.1 Overview of the campaign (HS: High-school students, BS: Bachelor students, MS: Master students)

		Audience	Main actor	Action
Contemporary role models				
One-to-one	Mentoring program	1-2y. BS	MS	Retention
	Study support	1y. BS	MS	Retention
	Calls	HS + 1y. BS	MS	Recruitment Retention
One-to-many	Daily storytelling on IG	Follower	3y. BS + MS	Recruitment Retention
	High-school Talk	HS	3y. BS + MS	Recruitment Retention
	Personality test	Follower	/	Recruitment Retention
Orientation support				
Incoming	Summer schools	HS	Experts	Recruitment
	"How to TIL"	HS	3y. BS + MS	Recruitment
	"Notte prima del TIL"	HS	3y. BS + MS	Recruitment
Outgoing	"AperiSTEM"	3y. BS + 2y. MS	Workers	Vertical gap
	Mentoring program	3y. BS + 2y. MS	Workers	Vertical gap
Experiences				
	Annual "e.vent"	HS + BS + MS	Guests	Recruitment Retention Vertical gap
	Annual "SheHackPoliTo"	BS + MS	BS + MS	Retention
	"We are HERe meets"	1y. BS	1y. BS + prof	Retention

results of the admission tests showed that even among those students who came within a step of enrolling, having passed the test, girls gave up completing the enrollment to a much greater extent than boys (30% more). The survey results we yearly propose to the young girls immediately after enrolling confirms the same suggestion. Looking at the data collected in fall 2020 (626 girls, 55% of the first-year engineering females, answered the survey), most respondents (48%) started to be interested in STEM at the age group 14–18. At the same time, 10% discovered this interest only recently, after 18 years old (Fig. 5.1). They identify themselves as the principal guide to their choice (64%). In particular, it is of interest that females recognise teachers as an even lesser guide (11%) than family (20%) (Fig. 5.2). The results confirmed the finding analysed in the literature review (Cowgill et al., 2021; Weisgram & Diekman, 2015) and suggested that much can be done to motivate high-school girls further to pursue engineering studies.

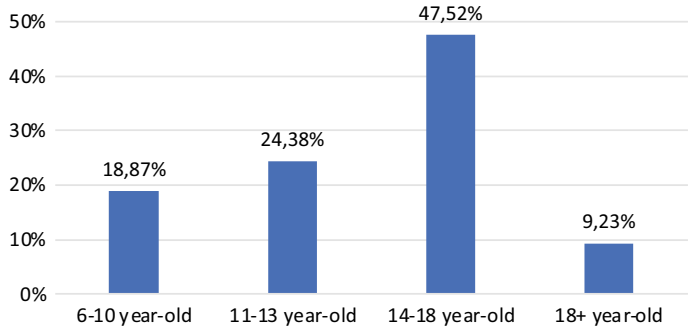


Fig. 5.1 Survey results related to the question "When did your interest toward STEM begin?"

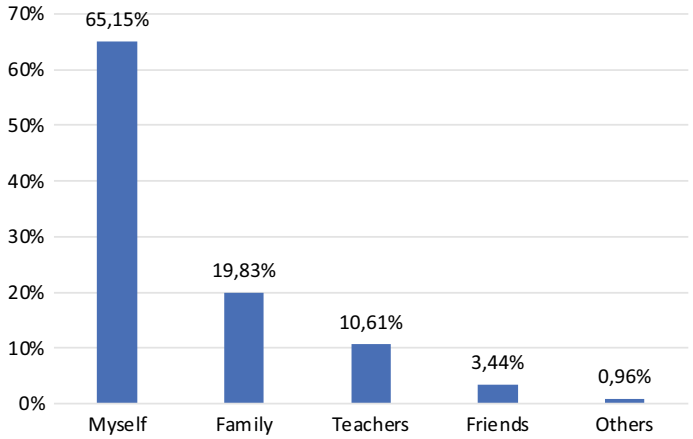


Fig. 5.2 Survey results related to the question "Who has most influenced your choice?"

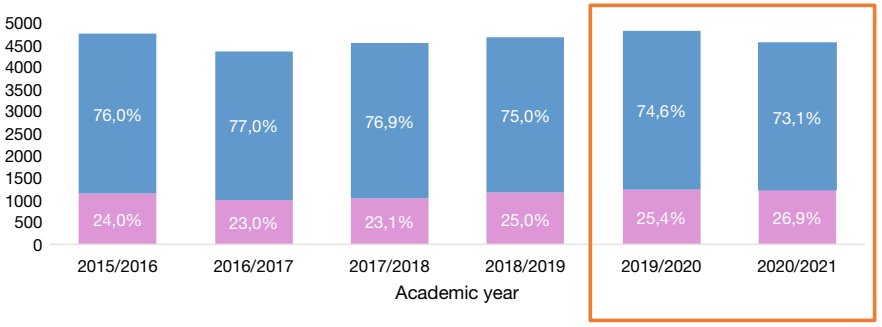


Fig. 5.3 Gender distribution from the academic year 2015/16 to 2020/21. Highlighted in red are the years in which WeAreHERe is in place

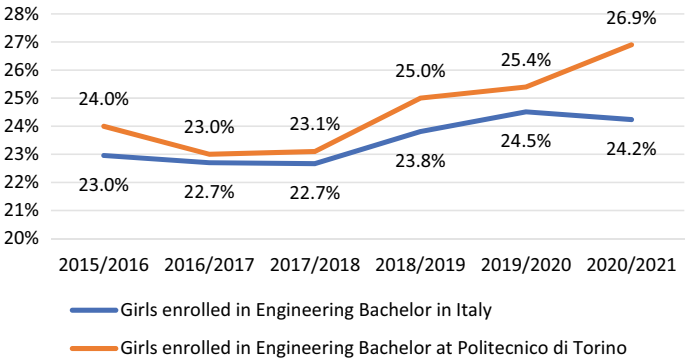


Fig. 5.4 Girls distribution from the academic year 2015/16 to 2020/21 at Politecnico di Torino and in Italy (*Data source* http://dati.ustat.miur.it/dataset/immatricolati)

The key element that characterises the attraction approach of WeAreHERe is to focus on experiences rather than formal events. By experiences, we mean events that require active participation with interaction and networking activities. We identified two main aspects to achieve this goal: the use of liquid communicative language and the transmission of content by other female students, perceived as peers. Through sharing their stories, via social media and meetings in high schools, as well as, in this period of COVID 19, through online events and one-to-one calls, the female students of the different engineering courses have become mentors for girls in high school. These young and familiar role models question with their testimony the stereotypes that represent one of the significant factors that prevent them from pursuing a STEM career. From the difficulty of the studies to the male environment, from the lack of free time to fearing a narrow work environment, one realises that what prevents girls from choosing this type of study often has nothing to do with their existing skills.

The difficulty in this approach is maintaining the freshness of peer-to-peer contact while providing informed content that avoids unconscious biases, like emphasising the gender gap and vertical segregation too much (Cowgill et al., 2021). University invites girls to become mentors through a general call open to all the Politecnico di Torino female students starting from the second year. Then they access special training by participating in a series of scheduled meetings. Initially, there are meetings with the Equality@Polito staff to raise awareness on gender equality, followed by a self-reflection on their experience to break the stereotypes. The second part of the training depends on their attitudes as the mentors are divided into two groups: one involved directly with high-school girls, while the other with first-year female students. In the latter case, the goal is to establish an empowerment community early in their engineering studies, which could help prevent the higher observed percentage of the first-year dropout among females (Politecnico di Torino, 2020).

Mentors meet with experienced mentors from the past edition and the external agency in charge of the overall campaign to be trained on typical questions and appropriate responses. To this end, an in-progress guide written along the first few

years of the pilot is also available, collecting practical observations by students. Awareness-raising activities on stereotypes and unconscious biases are offered in the form of short inspirational videos, whose language aims to avoid pedantry. The campaign usually conveys the message through symbols rather than words: a female student on a skateboard whose wrist has a tattoo of an equation, a girl in her bedroom with a poster of a spaceship, etc.

WeAreHERe is a mixture of one-to-one and one-to-many peer-to-peer mentoring. Indeed, thanks to social media, mentors can show their daily life through Instagram stories reaching a broader audience and spending quality time with personal one-to-one chats with girls willing to receive more information. Satellite activities that work both on the attitude towards STEM careers and the cognitive side surround this storytelling: (i) summer schools (Ballatore et al., 2020b); (ii) interactive events; (iii) personality tests; (iv) study support; (v) career advisor. An annual event was established under the name "WeAreHERe e.vent" starting from 2020. It aims to create an appointment for all the people involved and interested in gender in STEM topics. For more information on how the different activities were structured, one can find references on both the website and Instagram channel of WeAreHERe (Politecnico di Torino, 2021).

Under a constructivist quarry, we evaluate this new methodology's impact on the target audience through a qualitative and quantitative approach (formal structured surveys and observations as well as an analysis of the students' interactions with AI tools, designed to detect their verbal impressions and elaborate them (Bethaz et al., 2020)).

5.4 Results

One can gain an insight into the results of the first two years of the project through both the enrollment data and the feedback collected in the annual surveys and the AI algorithms employed in the interactive events.

Since now, WeAreHERe has addressed Italian-speaking girls on social media and online activities, primarily local high schools for in-class talks. Therefore, we limit the population under consideration to this sample. In Fig. 5.3, we report the gender distribution relative to the first-year enrollment in engineering in the last six years. One can see that two years into the project WeAreHERe (from 2018/19 to 2020/21), there is an 8% relative increase in the percentage of engineering enrolment: from 25,0% to 26,9%. If the trend were to continue, by 2024, almost one-third of total engineering enrolment would be female.

Considering the national trend (Fig. 5.4), the results obtain by the campaign are even more evident. In the academic year 2020/21, the girls enrolled in an Italian Engineering course were 24,2%, –0,3% than the year before. This trend represents an opposite one compared to Politecnico di Torino, which recorded a + 1,5% increase. This data confirmed that the aim of WeareHERe is strongly linked to the Politecnico

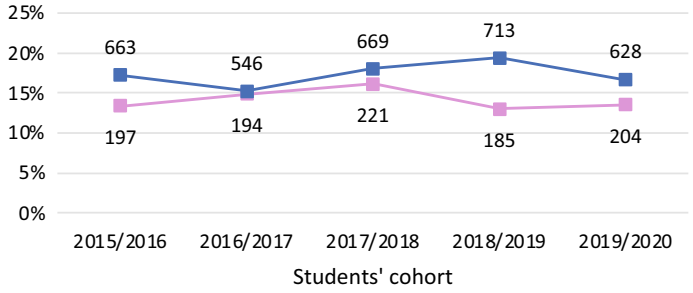


Fig. 5.5 End of first-year dropout rate for each cohort and gender (% on the total for gender)

di Torino enrollment as it fosters girls to STEM study and precisely to recruit them as future students.

Regarding retention, the dropout occurs mainly during the first year. Therefore, to have a clear picture, we consider the students that are still active at the beginning of their second year. Since the project started in March 2019, we can observe the first actions on the retention in the students' cohort 2018/2019. Before the project, the female dropout rates were about 15%, while now is about 13% (see Fig. 5.5).

Regarding the survey deserved to females right after enrolment, we compared the results of 2019/20 and 2020/21, finding the same trend. Therefore, in this discussion, we use the most recent data. The majority of the enrolled, 57%, have already heard, mainly via social media (about 40%) and institutional channels (about 40%). Of these, 20% considered the campaign a crucial factor in their choice. 78% of the enrolled female is interested in being supported by a graduate student (mentor) during the first year, mainly to receive support for the study, both in content and method, and socialising.

Social media, particularly Instagram, is a solid component of the project with about 3200 followers. Looking at the insights available on the app, the average stories' view is 1092, the average like at the posts is 149, and the accounts reached by at least one content in the last three months are 421.387.

The 2020 WeAreHERe e.vent was organised online and saw the participation of Sofia Viscardi, a writer, Youtuber, and influencer well known by the youngest (Politecnico di Torino and (YouTube channel), 2021). Around 5000 people attended the streaming, and until now, the video has achieved more than 30,000 views considering Youtube, WeAReHERe and Politecnico di Torino Instagram. A survey was sent to all the participants before the event, while we used an AI tool to analyse the trend topics. Figure 5.6 shows how young females perceive different conditions concerning their career decision. These results confirmed the literature and the survey analysis discussed above: personal motivation and fears are more critical than others' opinions. Figure 5.7 illustrates the words trends and the links between them. "To made" was the most used word with both meanings: creating something concrete and making new experiences. In (Bethaz et al., 2020), further details on the AI analysis of the event are given.

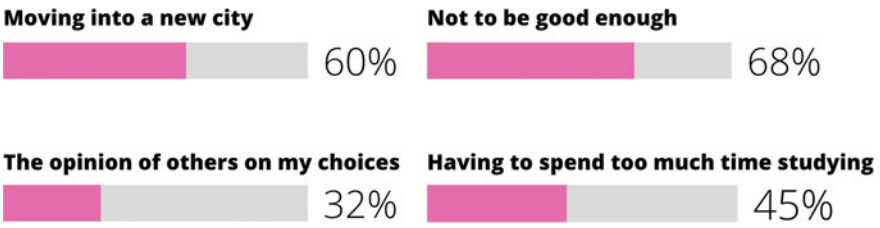


Fig. 5.6 Young females' perception of different conditions concerning their career decision

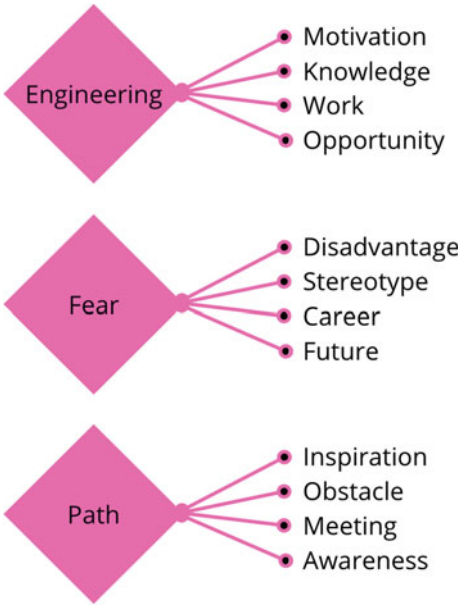


Fig. 5.7 Words trends and the links between them during the WeAreHERe e.vent 2020

A further concrete byproduct is provided by the mentioned in-progress booklet prepared by mentors, which collects typical students' doubts and suggestions and is shared with the teaching office to improve the provided information to the whole students' community.

5.5 Conclusions and Future Plans

In the mid-term, the project's central goal is to train a multitude of skills of the female students who participate in the activities, such as creativity, scientific storytelling, curiosity, respect, and collaboration. They share their doubts and thoughts at large about Engineering studies with female students who overcame them. This personal

growth translates into greater self-esteem. In the end, it envisages the project's self-sustainability in the formation of a generation of female engineering students aware of their choices, who will be able to motivate and be of reference for other female students in high school and beyond. In the long term, the project empowers the female component at Politecnico di Torino, increasing the gender equality and diversity of the whole academic community.

Covid-19 represented a challenge for the training and the in-person networking opportuning. However, thanks to the already in place multiple communication channels, we could maintain various activities both for the high-school population and university one and propose some new ones.

In conclusion, WeAreHERe positively impacted recruitment and helped reinforce a sense of community inside the female students. Nevertheless, we know that the 35% goal in the strategic plan is hard to reach by 2024. It is essential to highlight that this goal is very challenging. Any engineering university hardly reaches it in Europe, especially considering that Politecnico has an overall enrollment of 4600 students each year. A way to attain the goal is to extend the WeAreHERe attraction campaign to international students. This inclusion can be done by using both Italian and English for the social media content and having some dedicated mentors from countries different from Italy.

Regarding retention, to understand the added value of this campaign, we need to be able to analyse a more extended observation period. Right now, only the first-year dropout can be considered and not yet the entire three-year career. In general, knowing the crucial role of a gender-friendly environment, WeAreHERe will foster the whole students' population to believe in the importance of a more balanced world. We will achieve this future plan by promoting male role models that testify how together everything is more manageable and better: Balance4Better.

This positive experience has been shared with South American Universities within the "W-STEM: Engaging women into STEM, building the future of Latin America", a Capacity Building EU project. The use of fluid and fresh peer-to-peer communication to reach a wider audience, with the direct engagement of female students' as "role models" and mentors, is an innovative and creative way to attract and retain females in STEM careers that everyone can easily implement in other institutions worldwide.

References

Ballatore, M. G., De Borger, J., Misiewicz, J., & Tabacco, A. (2020a). ANNA tool: A way to connect future and past students in STEM. *IEEE Revista Iberoamericana De Tecnologias Del Aprendizaje, 15*(4), 344–351.

Ballatore, M. G., Duffy, G., Sorby, S., & Tabacco, A. (2020b). SAperI: Approaching gender gap using spatial ability training week in high-school context. In *Proceedings of the Eighth International Conference on Technological Ecosystems for Enhancing Multiculturality (TEEM'20).* Association for Computing Machinery

Beede, D. N., Julian, T. A., Langdon, D., McKittrick, G., Khan, B., & Doms, M. E. (2011). Women in STEM: A gender gap to innovation. *Economics and Statistics Administration Issue Brief*, 04–11

Bethaz, P., Callà, R., Cerquitelli, T., Montorsi, A., & Giorgi, C. D. (2020). Proactive user engagement via friendly survey and data-driven methodologies. In *2020 IEEE 36th International Conference on Data Engineering Workshops (ICDEW)* (pp. 56–63).

Bührer, S., Reidl, S., Schmidt, E. K., Palmen, R., Striebing, C., & Groo, D. (2019). Evaluation framework for promoting gender equality in research and innovation: How does gender equality influence research and innovation outcomes and what implications can be derived for suitable evaluation approaches? *Journal for Research and Technology Policy Evaluation, 47*, 140–145.

Cowgill, C., Halper, L., Rios, K., & Crane, P. (2021). "Why so few?": Differential effects of framing the gender gap in STEM recruitment interventions. *Psychology of Women Quarterly, 45*(1), 61–78.

Drury, B. J., Siy, J. O., & Cheryan, S. (2011). When do female role models benefit women? *The Importance of Differentiating Recruitment from Retention in STEM, Psychological Inquiry, 22*(4), 265–269.

Fulcher, M., & Coyle, E. F. (2011). Breadwinner and caregiver: A cross-sectional analysis of children's and emerging adults' visions of their future family roles. *British Journal of Developmental Psychology, 29*, 330–346.

Garcia-Holgado, A., Vázquez-Ingelmo, A., Verdugo-Castro, S., González, C., Gómez, M. C. S., & Garcia-Peñalvo, F. J. (2019). Actions to promote diversity in engineering studies: A case study in a computer science degree. In *2019 IEEE Global Engineering Education Conference (EDUCON)* (pp. 793–800)

García-Holgado, A., Verdugo-Castro, S., González, C., Sánchez-Gómez, M. C., & García-Peñalvo, F. J. (2020a). European proposals to work in the gender gap in STEM: A systematic analysis. *IEEE Revista Iberoamericana de Tecnologias del Aprendizaje, 15*(3), 215–224.

García-Holgado, A., Verdugo-Castro, S., Sánchez-Gómez, M. C., & García-Peñalvo, F. J. (2020b). Facilitating access to the role models of women in STEM: W-STEM mobile app. In: Zaphiris, P., & Ioannou, A. (Eds.), *Learning and collaboration technologies. Designing, developing and deploying learning experiences. HCII 2020b.* Lecture notes in computer science, vol. 12205. Springer, Cham.

Glass, J. L., Sassler, S., Levitte, Y., & Michelmore, K. M. (2013). What's so special about STEM? A comparison of women's retention in STEM and professional occupations. *Social Forces, 92*(2), 723–756.

Gomez Soler, S. C., Abadía Alvarado, L. K., & Bernal Nisperuza, G. L. (2020). Women in STEM: Does college boost their performance? *Higher Education, 79*, 849–866.

González-González, C. S., García-Holgado, A., Martínez-Estévez, M. A., Gil, M., Martín-Fernandez, A., Marcos, A., Aranda C., & Gershon, T. S. (2018). Gender and engineering: Developing actions to encourage women in tech. In *IEEE Global Engineering Education Conference (EDUCON)* (pp. 2082–2087).

Lambrecht, A., & Tucker, C. (2019). Algorithmic bias? An empirical study of apparent gender-based discrimination in the display of STEM career ads. *Management Science, 65*(7), 2966–2981.

Liben, L. S., & Coyle, E. F. (2014). *Chapter three - developmental interventions to address the STEM gender gap: Exploring intended and unintended consequences*. Liben, L. S., & Bigler, R. S. (Eds.), Advances in child development and behavior, JAI (Vol. 47, pp. 77–115).

Makarova, E., Aeschlimann, B., & Herzog W. (2019). The gender gap in STEM fields: The impact of the gender stereotype of math and science on secondary students' career aspirations. *Frontiers in Education, 4*, 60.

Politecnico di Torino. (2002). Il progetto Donna: Professione Ingegnere https://didattica.polito.it/_progettodonna/progetto.html. Retrieved from 6 Oct, 2021.

Politecnico di Torino. (2018). *The Strategic Plan PoliTo4Impact*. Politecnico di Torino.

Politecnico di Torino. (2020). *Diversity is excellence: Gender equality report*. Politecnico di Torino.

Politecnico di Torino. (2019). She Hacks PoliTo. https://www.politocomunica.polito.it/press_room/comunicati/2019/she_hacks_polito. Retrieved from 6 Oct, 2021.

Politecnico di Torino. (2021). WeAreHERe. https://weareherepolito.it/. Retrieved from 6 Oct, 2021.
Politecnico di Torino (YouTube channel). (2021). WeAreHERe e.vent: un lavoro per Donne con Sofia Viscardi. https://www.youtube.com/watch?v=hpF-i-M0010. Retrieved from 6 Oct, 2021.
Sassler, S., Michelmore, K., & Smith, K. (2017). A tale of two majors: Explaining the gender gap in STEM employment among computer science and engineering degree holders. *Social Science, 6*(3), 69.
Steele, C. M., & Aronson, J. (1995). Stereotype threat and the intellectual test performance of African Americans. *Journal of Personality and Social Psychology, 69*, 797–811.
European Union. (2018). *Report on equality between women and men in the EU 2018*. Publications Office of the European Union.
United Nations. (2019). Goal 5: Achieve gender equality and empower all women and girls. https://unric.org/en/sdg-5/. Retrieved from 6 Oct, 2021.
Verdugo-Castro, S., García-Holgado, A., & Sánchez-Gómez, M. C. (2019). Analysis of instruments focused on gender gap in STEM education. In *Proceedings of the Seventh International Conference on Technological Ecosystems for Enhancing Multiculturality (TEEM'19)* (pp. 999–1006). Association for Computing Machinery.
Wai, J., Lubinski, D., & Benbow, C. P. (2009). Spatial ability for STEM domains: Aligning over 50 years of cumulative psychological knowledge solidifies its importance. *Journal of Educational Psychology, 101*(4), 817–835.
Weisgram, E., & Diekman, A. (2015). Family friendly STEM: Perspectives on recruiting and retaining women in STEM fields. *International Journal of Gender, Science and Technology, 8*(1), 38–45.
Wolffram, A., Aye, M., Apostolov, G., Andonova, S., O'Hagan, C., O'Connor, P., Chizzola, V., Çağlayan, H., Sağlamer, G., & Tan, M. G. (2017). *Perceptions of excellence in hiring processes: Results of mapping of the present situation in Bulgaria*. FESTA (Eds.), Sweden. https://www.festa-europa.eu/sites/festa-europa.eu/files/FESTA_5%201_final_report.pdf. Retrieved from 6 Oct, 2021.
Wyred. (2019). Online festival Wyred https://wyredproject.eu/online-festival/. Retrieved from 6 Oct, 2021.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

