

“BUT OF COURSE I’M GOING TO LOOK HAPPY” OR “HE NEEDED TO KNOW I WAS ANGRY”? COMPARING USE OF EMOTIONAL LABOUR IN TEAMWORK IN ENGINEERING AND HOSPITALITY STUDENTS.

Rachel Germanier*, Annick Darioly Carroz, Nihat Kotluk***, Roland Tormey******

*Associate Professor, Les Roches Global Hospitality Education, Crans-Montana, Switzerland, Rachel.germanier@lesroches.edu

** Associate Professor, Les Roches Global Hospitality Education, Crans-Montana, Switzerland, Annick.darioly@lesroches.edu

*** Scientist, Ecole polytechnique fédérale de Lausanne (EPFL), Lausanne, Switzerland, nihat.kotluk@epfl.ch

****Senior Scientist, Ecole polytechnique fédérale de Lausanne (EPFL), Lausanne, Switzerland, roland.tormey@epfl.ch

ABSTRACT

Being able to work effectively in a team is a vital professional skill but how do students in different disciplines, engineering and hospitality, display their emotions when working together? We investigated their self-reported use of emotional labour strategies, exploring the circumstances (when) and reasons (why) for using or not using them. We also examined the limitations and effects of emotional labour on their well-being.

A mixed-method approach was adopted using participants from two Swiss higher education institutions. Stage 1, a quantitative survey, determined that hospitality students used emotional dissonance strategies less than engineering students and that there was no statistically significant difference on the use of deep acting strategies between the two groups. Stage 2 involved using interpretative phenomenological analysis (IPA) on interview data from 14 students equally distributed across the institutions showing that both groups readily displayed their felt emotions in educational teamwork but used surface acting when in leadership roles, or “for the good of the team”. Undertaking surface acting was reported as more difficult when emotionally or physically drained and hospitality students were more reflective of their interactions. There is an indication that women dialled down their shown emotions in situations of sexism and not feeling respected. Deep acting strategies were dismissed by engineers but enacted by hospitality students through empathising with clients and anticipating their needs. Recommendations include teaching deep acting strategies and providing meaningful team projects enabling students, especially in engineering institutions, to learn how to interact effectively and healthily with others.

REVIEW OF THE LITERATURE

Emotion management is examined in this project through the lens of emotional labour. We adopted Hochschild's (1983) well known factors of *surface acting*: faking the emotion one feels is appropriate and *deep acting*: inducing it. Following Diefendorff et al. (2005), we added the expression of *naturally felt emotion* to form our three-part model, understanding emotional labour to be “the management of feeling to create a publicly observable facial and bodily display” (Hochschild, 1983, p. 7). Hochschild found that surface acting leads to emotive dissonance which could lead, according to Ashforth and Humphrey (1993) to poor self-esteem, depression, cynicism and alienation from work.

The level of emotional labour and the choice of emotional labour strategies (i.e., surface, deep or naturally felt) can vary depending on the field of study and the nature of the job, whether it involves teaching or crew responsibilities (Humphrey, 2023; Wang et al., 2021). These variations may have diverse impacts on individuals. A meta-analysis of 175 studies revealed that, for example, emotional labour can have both positive and negative effects, contingent on the specific emotional labour strategy employed-whether it is surface-acting or deep-acting (Humphrey, 2023). In other words, various emotional labour strategies yield distinct effects on individuals' mental health, burnout, and performance.

On the other hand, as disclosed in the quantitative stage of our research, previously reported (Kotluk et al., 2023), which included both hospitality and engineering students, we found that engineering students, in particular, exhibited statistically significantly higher emotive dissonance within their teams compared to hospitality students. This was primarily attributed to their preference for the surface acting strategy within their teams, as opposed to hospitality students. It is worth noting that while emotional labour in the hospitality and tourism field has been extensively examined (as seen in Lee & Madera's 2019 review), there has been comparatively less exploration in the engineering domain (refer to Houben & Wüstner, 2014; Lönngren et al., 2023; Shan, 2012). Thus, there is a need to shed light on why and when students in hospitality and engineering education prefer to use different emotional labour strategies in their teams and what impacts these strategies have on students.

In this study, we compared self-reported usage of displaying naturally felt emotion, doing surface acting and doing deep acting between engineering and hospitality students to further our understanding of their use of these strategies when working in teams. The research questions we sought to answer in this study were as follows:

RQ 1: Why do engineering and hospitality students use different emotional labour strategies in teamwork?

RQ 2: When do engineering and hospitality students use different emotional labour strategies in teamwork?

RQ 3: What limits engineering and hospitality students' use of different emotional labour strategies in teamwork?

RQ 4: What are the effects of using different emotional labour strategies in teamwork on engineering and hospitality students?

METHODOLOGY

The mixed methods study followed a sequential explanatory design (Crearer, 2018) with a QUAN → QUAL [using Morse's (2003)] notation indicating equal weight given to both stages shown in order) approach, with an initial quantitative stage which subsequently informed the qualitative part. Data were gathered in late 2022-early 2023 for stage 1 and late 2023 for stage 2. The data from this stage has already been reported in Kotluk et al. (2023), but it is briefly presented here for comparison purposes. Therefore, in this paper, the main focus will be on Stage 2 results.

Stage 1: The quantitative part of the research

In this stage, 90 engineering students from a public Swiss science and technical institution and 174 hospitality students ($n=264$) from an international higher education institution in Switzerland specialising in hospitality management completed an electronically administered questionnaire in 2022.

Stage 2: The qualitative part of the research

In Stage 2, 14 students (seven engineering students and seven hospitality students) from the same institutions as in Stage 1 were interviewed and the data analysed using Interpretative Phenomenological Analysis (IPA) for this phase. Through their professional and social networks, all of the researchers know some of the participants but were not teaching any of them at the time of the data collection. The first author conducted all of the interviews over Microsoft Teams with a view to consistency of the interview experience. All participants chose pseudonyms.

The engineers worked towards a very particular project involving many small teams to conceive, build and race an electrically powered car - predominantly in their own time but under the auspices of the institution while the hospitality students all had academic experience of teamwork and were all either final semester or recently graduated students who all had experience of working in the hospitality industry either in internships and / or as professional. Such small, homogeneous samples are typical in IPA work (Smith & Osborn, 2003). Following the recommendations from the pilot, who fulfilled the requirements of the purposeful sampling, the introductory guidance to the interview was modified with the protocol remaining unchanged. As a result, the data from this individual were included in the study.

The individual interviews were predominantly in English for approximately one hour. The video recordings aided the second researcher clean the transcripts which were returned to the participants for verification. Two additional comments from the participants were added to the transcripts at this stage. The transcripts were coded using MAXQDA while experiential statements were made for each participant providing a basis for the subsequent cross-case analysis. The emergent themes from this step (e.g., productivity, team cohesion) were then grouped into super-themes (intrinsic and extrinsic motivation, for example) before the coded data were returned to for the comparison between disciplines. The analysis was data led with an acknowledgement of the role of researcher in the IPA double hermeneutic of analyst making sense of "how participants are making sense of their personal and social

world” (Smith & Osborn, 2003, p. 53). Table 1 provides a list of participants with demographic details.

Table 6 List of participants with demographic details

	Chosen pseudonym	Chosen gender	Academic / professional situation	Age	Nationality
Engineering students	Alex	male	Last semester masters - internship	25	Swiss
	Alice	female	Last semester masters - internship	23	French
	Arnaud	male	Last semester masters - internship	24	French
	Ernest	male	Last semester masters - internship	25	Swiss / British
	John	male	Last semester masters - internship	23	Swiss
	Paul	male	Last semester bachelors - internship	22	French
	Robert	male	First semester masters	23	Swiss
Hospitality students	Ann	female	4 th month of post-bachelor MIT training	22	Vietnamese
	Evan	male	3 months after masters graduation	28	Indian
	Jonathan	male	Last semester of masters	25	Portuguese
	Lili	female	Last semester post-graduate internship	28	Indonesian
	Marie	female	Last semester masters internship	31	Indian
	Percy	male	7 months after bachelors graduation	22	American
	Steven	male	3 months after bachelors graduation	28	British

In Stage 1, the quantitative part of the research, Likert scale responses from the questionnaires for expressing naturally felt emotions were reversed and combined with surface acting to produce the concept of “emotional dissonance”. In Stage 2, for ease of comprehension with the participants, each situation was numbered as shown in Table 2.

Table 7 Conception of emotional labour in the different parts of the research project

Emotional labour strategies (Diefendorff et al., 2005; Hochschild, 1983)	Stage 1	Stage 2
Strategy 1: Displaying naturally felt emotions No emotional labour undertaken	Emotional dissonance (using the scale of “expressing emotions” reversed)	Situation 1
Strategy 2: Surface acting Requires little effort but damages well-being		Situation 2
Strategy 3: Deep acting Is effortful but protects well-being	Deep acting	Situation 3

RESULTS AND DISCUSSION

Stage 1: Students' emotional labour strategy preferences

As we mentioned before, the quantitative analysis showed that the engineering students used more emotional dissonance strategies than their hospitality counterparts ($M_{\text{Hospitality}} = 2.34$, $SD = .77$; $M_{\text{Engineering}} = 2.55$, $SD = .76$ groups; $t(262) = -2.06$, $p = .040$), indicating that they were at a greater risk of poor self-esteem, depression, cynicism and alienation from work as indicated in the now 30-year old findings of Ashforth and Humphrey (1993). It showed that, however, there was no statistically significant difference in the two groups' use of deep acting ($M_{\text{Hospitality}} = 3.04$ $SD = .85$; $M_{\text{Engineering}} = 2.90$, $SD = .78$ groups; $t(262) = 1.25$, $p = .213$). More details on Stage 1 results can be found in Kotluk et al. (2023).

After Stage 1 data analysis, four qualitative research questions were created from the data. These explore the students' accounts of why and when they use emotional labour strategies, what limits their use of these strategies and how their use affects them. We explored these questions in Stage 2.

Stage 2: The reasons, situations, and factors influencing the use of emotional labour strategies

RQ1: Why do engineering and hospitality students use different emotional labour strategies in teamwork?

In response to our question exploring why engineering and hospitality students use different emotional labour strategies, it became clear when analysing the data that students' reasons for choosing to use surface acting or not could be divided into overarching binary motivational aspects. For ease of reference, in the following sections, engineering students are referred to with an E and hospitality students with an H.

Extrinsic motivation

Described by Ryan and Deci (2000) as being "A construct that pertains whenever an activity is done in order to attain some separable outcome" (p. 60), extrinsic motivation was appropriate for four "why" themes from the interview data: productivity, team cohesion, career advancement, and customer satisfaction.

Expressing the emotion felt was linked to terms such as "productive" (Robert E), "rational" (Arnaud E) and "efficient" (Ernest E and Ann H) for both groups of students, as commented by Arnaud (E): "Actually I feel that I have a good reason to feel angry about a teammate, a situation or something I will make that clear because I think it's the most straight way to convey what we feel and to stress the things that we need to sort this out." For both groups, in educational teamwork, this was the "default mode" (John E) but the engineers turned to surface acting on the rare occasions where the needs of the team overrode their desire to communicate honestly as sometimes expressing naturally felt emotions "creates some division sometimes in the team. And then it's also harder to work in an environment like that" (Alex E). Placing the needs of the team above their individual needs was formulated by Paul (E) as "sometimes I felt this and it was not... a good emotion to show because it didn't really make things better for the whole team." Steven (H) explained how he and his teammates used surface acting to try, unsuccessfully as it transpired, to motivate less engaged colleagues with a view to getting "something out of it as a whole team."

Regarding the professional landscape, Evan (H) demonstrated how experience enabled him to do surface acting for the benefit of others:

Situation two would be those situations where I, you know, I've encountered ...[them] enough number of times...for me to know what is correct and what would be the right...emotion to show for the sake of the team, the hotel, the impression of the department or the organisation.

In order to achieve team cohesion, surface acting was used – or expected at least – by the engineers. Arnaud (E) explained that he “tried to keep the team members as close as possible without any friction with the aim of the team being the most performant possible but with a good atmosphere on a working, human and social plane” [original text in French]. John (E) echoed this sentiment explaining how he managed the emotion felt in his team: “In challenging situations I tried to hide not like ... the bad emotions, but ... I don't want to build up a conflict and have a tense team, so I try to always calm down the anger in some people and keep it for me,” while Arnaud explains that he would not show his disappointment “because of the team's mindset.” Surface acting as a concept was more strongly represented overall in the hospitality than engineering students, in contrast to our findings in Stage 1. Ann (H), however, did articulate a desire to modify the emotions she showed as they could “eventually...dampen the spirit of other people...when everybody's is dealing with the same thing.”

An interesting and isolated strong and considered use of surface acting was by Jonathan (H) who had many years of working in hospitality, first as a chef and then in public facing roles, turning from an introvert into someone who was outgoing and engaging. He employed surface acting in most of his educational and professional encounters as he perceived that displaying as a “friendly, smiley” individual would be beneficial to his career advancement: “You need to make yourself the product that you're selling...fake it til you make it.” No evidence of such an approach was found in the data from the engineers.

As expected, all the hospitality students claimed they readily used surface acting in order to ensure their customers' satisfaction but only Evan fleetingly mentioned using it in teamwork in a professional context stating if “I am going through certain emotions which are not considered pleasant, I would not show them for the sake of both the overall harmony of the department and operations” so as not to “impact the overall guest experience in some way.”

Intrinsic motivation

Intrinsic motivation, defined in contrast to its opposite by Ryan and Deci (2000) as “The doing of an activity for its inherent satisfactions” (p. 60) was conceptualised by the students in two ways – through authenticity and in attending to their mental health. Authenticity was consistently associated with showing the emotion felt. Paul (E) and Ann (H) both used the word “honest” when talking about expressing their emotions in teamwork with Ann (H) also saying she was “blunt” in this context. Demonstrating an acceptance to show potential weakness to teammates, Ernest (E) explained that he saw no reason to “hide that I'm tired” and Alex commented that “when we were frustrated together because something didn't work or we didn't sleep a lot, I never felt like I should hide it to be strong or whatever. ...When we were so frustrated, we would just say it.” Regarding the second area of interest in intrinsic

motivation, Percy (H), who worried about causing “strife” in team interaction, explained how he used surface acting to build a “barrier” so he did not take on everyone else’s “emotional baggage” because “that’s not great for the mental health.” No engineers alluded specifically to mental health in their interviews.

Deep acting

Framed by us as ‘situation 3’, deep acting was, for engineers, generally dismissed with comments like “I don’t really relate to it” (Alex), “There is no need to try to feel an emotion” (Arnaud) and even as, “I feel like it’s maybe the most undesirable situation, I think it’s a good thing that it didn’t really happen” (Robert). However, John, a team leader, expressed how he always tried to “stay calm and discuss with everybody” when tensions were rising between divisions showing potentially a nascent deep acting behaviour. Ernest, one of the most down to earth of the engineers, remembered a time when one of his teammates tried but failed to do deep acting: “We were all so happy, I took a teammate in my arms and we had a little... had tears down our cheeks and another one was there and he just looked at us and ‘Oh, I’m. I’m not feeling the same as you and I would like to feel it’ but he couldn’t. He wasn’t feeling it.”

In general, the hospitality students had quite a different approach to deep acting. Evan, who has a long professional background in the industry, commented that he was “not alien to this concept” and both he, Jonathan and Ann expressed how important it was in their professional lives to anticipate customers’ needs, to try to put oneself in customers’ shoes through empathy to determine how to best deliver an outstanding service.

RQ2: When do engineering and hospitality students use different emotional labour strategies in teamwork?

Our analysis showed that students used both intra- and inter-personal reasons when deciding whether or not to use EL strategies in their team interactions.

For intrapersonal reasons

One of the saddest accounts for the two female researchers to read in this data set was that of Alice (E) who explained how fear of sexist repercussions of showing her emotions lead her to be “as neutral as possible”, dialling down not only the expression of sadness but even of happiness and of taking up less space than her male counterparts. This impression management was linked in this case to gender and was picked up by her teammate Robert (E): “Simply the fact that some women in the team were just not considered as much as some men in of the team...we could feel that it was more difficult for her to express.” While gender was mentioned by the female hospitality students, it was not related to the expression of emotions. Our second category in intrapersonal reasons is that of culture. Lili, an Indonesian hospitality student, described her hesitancy to show emotions as she was unsure how she was expected to respond in a new culture. She explained how she showed a “neutral face...because I’m not a type of very expressive person” and also, “It’s usually because I’m still thinking what kind of expressions...also how to respond. Because this is my first time in Europe. So sometimes, well, if I’m in Indonesia or in Asia, I know how to react quickly, but because it’s different ... kind of environment.”

For interpersonal reasons

The participants volunteered a rich vein of data concerning the context of the environments governing whether they would use emotional labour. The relationship with their interlocutor was important for both groups with, as expected, interactions with friends and classmates “because we’re peers” (Jonathan H) involving showing the emotion felt “95% of the time” (John E). The use of surface acting for negative emotions in these situations was mentioned by both groups and only Alice (E) stated that even with peers she would use emotional labour for positive emotions if she felt she was not being respected.

The students’ perception of the expectations of their role was strongly linked to implementing surface acting. Paul (E) showed this strongly with the comment “I would say situation 2...was, during the whole competition, because I was very frustrated but I would say that it was part of the job and so I didn’t like show this to the outside world.” Those who had leadership roles referred to these often too as epitomised by John (E): “So as a team leader, I tried to show the example and not like at the first problem go and see the other team leader and say, ‘oh, you did shit’ and it’s not OK.” For the hospitality students, surface acting was much more linked to their professional public-facing role with a strong consensus that negative emotions could not be shown with Ann (H) explaining that, “You definitely don’t want [personal situations]...to affect your overall performance at work.” Robert (E) and Alex (E) both explained how they felt their credibility with others and therefore their confidence grew over time and facilitated their move from using surface acting to showing their emotions with other team leaders. Robert (E) later used the term “legitimacy” for the same concept. These notions were not expressed by the hospitality students in relation with surface acting.

RQ 3: What limits engineering and hospitality students’ use of different emotional labour strategies in teamwork?

Our third RQ focused on what limited students’ ability to undertake surface acting. Both groups eloquently expressed how exhaustion, both mental and physical, played a role here. Jonathan (H) who was so proficient at putting on a mask explained how he could be pushed to the limits of his mental capacity by colleagues: “[I] try to be pacifistic until my emotional capacity runs out... It takes an exceptional amount of bad behaviour for me to boil over, but when it happens, I lose my mind” and how physical exhaustion affects him too: “I had done 40,000 steps one day...carrying things from one floor to the other...I was just at my breaking point...and like the mask dropped and everybody noticed.” One of the engineering students, John, noted how “because I was already exhausted...doing the situation two was harder.”

RQ4: What are the effects of using different emotional labour strategies in teamwork on engineering and hospitality students?

Our final RQ explored the effects of using emotional labour strategies on the two groups of students. Evan (H), who had considerable experience in the industry, felt no different after doing situation 1 or 2 although he did reflect after these encounters, as did Marie (H) and Percy (H), pondering on the appropriateness of their actions. The notion of needing time to “decompress” was articulated by three hospitality students: Percy, Marie and Jonathan but not by any of the engineers, with Percy (H) articulating, “I just I generally find myself always in situation two, where I’m kind of just putting on a

face even if I'm not 100% happy with it, and then by myself, I'll vent maybe a bit." The hospitality students were much more forthcoming regarding the effects of doing surface acting than their engineering counterparts.

A general overview of findings

As a summary, for each area of investigation, a heat map is presented (see Table 3) below illustrating the strength of the articulation of the concept rather than solely its numerical prevalence in the data set. The darker the colour, the stronger the articulation of the concept. Such an approach aligns with the interpretive nature of this study. For example, the strong articulation of 'needs of the team' by engineering students emanated from John's (E) vivid description of the occasion when, despite feeling exhausted, he concluded that

there was a point where I would have wanted to just say, OK, these people, I don't want to talk with them anymore, but I did not do that because I forced me a bit to keep a relation with them, because it would be better...for the team to still have a discussion and not completely break apart

while Evan (H) is much blander in his description of "doing situation 2" as shown on page 6 above.

Table 8 Comparative heat map of intensity of articulation of concept

			Engineering students	Hospitality students
Reasons why surface acting is chosen or not	Extrinsic motivation	Needs of the team		
		Team cohesion		
		Career advancement	Not mentioned	
		Customer satisfaction	Not relevant	
	Intrinsic motivation	Authenticity		
		Mental health	Not mentioned	
When surface acting is chosen or not	Intrapersonal	Impression management		Not mentioned
		Gender		Not mentioned
		Culture	Not mentioned	
	Interpersonal	Relationships		
		Behaviour for the role		
		Credibility and confidence		Not mentioned
		Legitimacy		Not mentioned
Limiters for being able to enact surface acting	Exhaustion - physical			
	Exhaustion - mental			
Effect of enacting surface acting	It has no effect	Not mentioned		
	It feels good	Not mentioned		
	Exhaustion	Not mentioned		
	Need to vent	Not mentioned		
	Self-reflection	Not mentioned		
Deep acting				

Key:

Strong intensity	Moderate intensity	Minimal intensity
------------------	--------------------	-------------------

FINDINGS AND RECOMMENDATIONS

Summarising the findings into a coloured heat map as in Table 3 demonstrates that to answer our first RQ, surface acting is enacted for both extrinsic reasons: either for the good of the team (E) or for the customer (H); or not undertaken for reasons of

authenticity (E and H) – often depending on the interpersonal context of the encounter.

Our second RQ concerned the context of the encounter and its link to emotional labour. Its interpersonal nature was deemed especially relevant for the engineering students while the notions of credibility, confidence and legitimacy were not mentioned by the hospitality group who focussed more on their role in the professional interaction.

In answer to our third RQ, there was consensus between both groups that physical and mental exhaustion limits the capacity to undertake emotional labour strategies.

Regarding RQ 4, perhaps because they undertook surface acting more readily and more often than their engineer counterparts, i.e., they took it as a given that it was required in a working environment, the hospitality students were more expressive on its impacts on their well-being focussing on a need to take time to reflect and vent subsequent to undertaking emotional labour.

The significance of “learning by doing” is hard to overstate from the data we collected although a clear distinction appeared in the students’ accounts regarding where and how they had learnt to manage the display of their emotions. The engineers mentioned how while their curriculum focussed on theory, they hugely valued the human experience of extra-curricula inter-disciplinary projects such as the electric racing car, as articulated by Paul who reflected that he had learnt more about “emotions, teamwork, and living with others” than in “four or five years of academic study”. The original, multi-faceted extra-curricular engineering project, completely under the control of students with minimal faculty engagement, enabled these “rational” and “logical” students to experience emotion-management and conflict not only with their friends and team-mates as with more typical assessed projects, but also with other disciplines, in moments of “exhaustion” and “stress”, as Paul commented, just like happens in the professional world.

For the hospitality students it was during their practical semesters (Steven) or their time working in a professional environment (Ann, Evan, Jonathan, Lili, Marie and Percy), and often from a mentor (Ann, Jonathan, Marie) that they had learnt how to present themselves rather than through their institution-based curriculum echoing the findings of Nyanjom and Wilkins (2021). In addition to invaluable internships, we recommend therefore that rather than structured teaching about using emotional management techniques, or perhaps as a adjunct to such content, students participate in real-life, multi-discipline, long-term, self-governing, non-curricular team projects which develop leadership and otherwise-hard-to-teach interpersonal skills.

Our Stage 1, quantitative, findings, showed that hospitality students used surface acting less in teamwork than engineering students were not upheld by our second, qualitative piece. One potential reason for this is that the hospitality interviewees all had work experience and often reflected on this during the interviews rather than on team work in an educational context, while all the engineer interviewees reflected solely on their experience in the specific extra-curricular project, they were involved in. The hospitality students who participated in the quantitative part of the project

had less work experience and potentially reflected solely on their educational teamwork experiences in their responses.

LIMITATIONS AND AREAS FOR FURTHER STUDY

As is typical with IPA studies, we recognise that the small number of participants in this research has provided extremely rich data with a subjective analysis. The group of engineers was a friendship group from a limited European context while the hospitality group was more heterogeneous culturally and in age but in both cases only one institution was the focus and males were potentially over-represented (6/7 and 4/7 respectively). It would be interesting to see at what point saturation occurred with a larger, potentially more diverse, sample.

Our data contained one participant, Lili, who voiced a potential link between her ability to communicate freely with cultural differences she experienced which begs the question of the extent to which culture affects engineering and hospitality students' ability and willingness to communicate freely or engage in emotional labour in teamwork. This would further work undertaken to date by Allen et al. (2014).

We noted that hospitality students enact more deep acting than their engineering counterparts but to what extent this is linked to their emotional intelligence is currently unknown. A quantitative study involving both populations could shed light on this area of study.

Finally, we gathered interview data on but have not yet explored the extent to which social identity theory (Tajfel & Turner, 1979) as applied by Ashforth and Humphrey (1993) maps onto the ability of engineering and hospitality students to communicate freely or choose to use emotional labour in their inter- and intrateam interactions.

REFERENCES

- Allen, J. A., Diefendorff, J. M., & Ma, Y. (2014). Differences in emotional labor across cultures: A comparison of Chinese and U.S. service workers. *Journal of Business and Psychology*, 29(1), 21–35. <https://doi.org/10.1007/s10869-013-9288-7>
- Ashforth, B. E., & Humphrey, R. H. (1993). Emotional labor in service roles: The influence of identity. *Academy of Management Review*, 18(1), 88–115. <https://doi.org/10.5465/amr.1993.3997508>
- Crearer. (2018). *An introduction to fully integrated mixed methods research*. SAGE. [https://bookshelf.vitalsource.com/reader/books/9781506377278/epubcfi/6/32\[%3Bvnd.vst.idref%3Ds9781071802823.i968\]!/4/2\[s9781071802823.i968\]/18\[s9781071802823.i980\]/12\[s9781071802823.i990\]/6\[s9781071802823.i992\]/6/4/4](https://bookshelf.vitalsource.com/reader/books/9781506377278/epubcfi/6/32[%3Bvnd.vst.idref%3Ds9781071802823.i968]!/4/2[s9781071802823.i968]/18[s9781071802823.i980]/12[s9781071802823.i990]/6[s9781071802823.i992]/6/4/4)

- Diefendorff, J. M., Croyle, M. H., & Gosserand, R. H. (2005). The dimensionality and antecedents of emotional labor strategies. *Journal of Vocational Behavior*, 66(2), 339–357. <https://doi.org/10.1016/j.jvb.2004.02.001>
- Hochschild, A. R. (1983). *The managed heart: Commercialization of human feeling*. University of California Press.
- Houben, V., & Wüstner, K. (2014). Service work without emotional labour? Role expectations of service engineers, their employers and customers in the mechanical engineering industry. *Management Revue*, 25(1), 50–66. <https://doi.org/10.5771/0935-9915-2014-1-50>
- Humphrey, N. M. (2023). Emotional labor and employee outcomes: A meta-analysis. *Public Administration*, 101(2), 422–446. <https://doi.org/10.1111/padm.12818>
- Kotluk, N., Tormey, R., Germanier, R. L., & Darioly Carroz, A. (2023, September). Emotional labor experienced in team projects: A comparison of engineering and hospitality students. *European Society for Engineering Education*. (SEFI). <https://doi.org/doi.org/10.21427/B0JC-X967>
- Lee, L., & Madera, J. M. (2019). A systematic literature review of emotional labor research from the hospitality and tourism literature. *International Journal of Contemporary Hospitality Management*, 31(7), 2808–2826. <https://doi.org/10.1108/IJCHM-05-2018-0395>
- Lönngren, J., Direito, I., Tormey, R., & Huff, J. L. (2023). Emotions in Engineering Education. In A. Johri, *International Handbook of Engineering Education Research* (1st ed., pp. 156–182). Routledge. <https://doi.org/10.4324/9781003287483-10>
- Morse, J. M. (2003). Principles of mixed methods and multimethod research design. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 189–208). SAGE.
- Nyanjom, J., & Wilkins, H. (2021). Emotional labor and the hospitality and tourism curriculum: The development and integration of emotion skills. *Journal of Human Resources in Hospitality & Tourism*, 20(4), 611–631. <https://doi.org/10.1080/15332845.2021.1960118>
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25(1), 54–67. <https://doi.org/10.1006/ceps.1999.1020>
- Shan, H. (2012). Learning to “fit in”: The emotional work of Chinese immigrants in Canadian engineering workplaces. *Journal of Workplace Learning*, 24(5), 351–364.
- Smith, J. A., & Osborn, M. (2003). Interpretative phenomenological analysis. In J. A. Smith (Ed.), *Qualitative psychology: A practical guide to research methods* (pp. 51–80). SAGE Publications, Inc.
- Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33–37). Brooks Cole.
- Wang, H., Hall, N. C., & King, R. B. (2021). A longitudinal investigation of teachers’ emotional labor, well-being, and perceived student engagement. *Educational Psychology*, 41(10), 1319–1336. <https://doi.org/10.1080/01443410.2021.1988060>