Equality, Diversity and Inclusion: The Forgotten Human Factors

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SUMMARY

This short paper presents a collection of scenario-based case studies, illustrating how matters of equality, diversity and inclusion (EDI) may operate as human factors. This paper aims to highlight that by placing EDI at the heart of human factors research and practice, future work can ensure a more informed and inclusive practice that avoids reinforcing systemic bias and injustice.

KEYWORDS

Equality, diversity, inclusion, inclusive design, psychometrics.

Introducing Equality, Diversity and Inclusion as a Human Factor

Humans are a diverse group and if the aim of Ergonomics and Human Factors (E/HF) is to optimise human and system well-being (International Ergonomics Association, 2000), then diversity is an essential component of that optimisation. Everyone lies at a complex intersection of characteristics (e.g., race, sexual orientation, class etc.). As such, if E/HF operates in line with its definition, then E/HF must promote the well-being of all people at all social intersections. This highlights the importance of considering the diversity of an individual and/or group and how these intersectional identities may affect human-system performance and well-being.

Recently, the first compendium of works on EDI and E/HF was published (Roscoe, Chiou & Woolridge, 2019). Works cluster around three themes; understanding and supporting healthy communities, including and empowering diverse people, and inspiring strategies for an inclusive future. However, this area is new and current thinking within the E/HF community often fails to consider diversity as a unique factor that can affect human-system performance and well-being. Additionally, Anderson (2021) writes that when we can access users from marginalised groups, our empathy towards their lived experiences increases and we are able to evidence and better address diverse wants and needs in product, system and service design. It is recognised that designing for people with special or diverse needs can often help to benefit a wider cohort in unexpected ways - the ‘cut curb effect’ (see Anderson, 2021).

As matters of EDI include complex systems such as culture, politics, social norms and bias, the systems that facilitate and perpetuate inequality may be considered macro-level human factors. Matters of EDI can also manifest as micro-level factors where the intersectional identity of the individual or group may affect their access, confidence and performance with products, systems and designs. In line with intersectional thinking, these factors may co-occur and manifest differently depending on the task or situation. Regardless, the current thinking of the authors is that these neglected human factors may affect human-system performance and well-being in ways that perpetuate and reinforce social inequality. Therefore, it is the hope of the authors that they are able to illustrate to the E/HF community that matters of EDI may operate as human factors that, historically, the discipline has failed to capture.

The Aim

The aim of this short paper is to present a series of case-study scenarios that highlight areas of E/HF where matters of EDI may operate as human factors affecting human-system performance. Note, scenarios are based on anecdotes and/or current limitations identified by the team.

Scenario 1: Lena is a successful engineer and has been shortlisted for a lead role in for a large international aeronautical company. During the selection process, she must complete a series of psychometric tests and attends a face-to-face testing site. Lena is welcomed and asked to give details, including age and sex. Lena asks why this information is needed. The test administrator replies that performance in the tests will be compared to a 'norm group' of people 'like her'. Lena states that she is trans and would like to know what that means for her data and how it will be compared. The test user looks uncomfortable and after checking the test manual replies, 'I honestly don't know'.

Scenario 2: Sarah is a remote hairdresser booked to style a bride's hair. She recently purchased a new set of hair straighteners from a leading brand and has had outstanding results with her clients. However, as she styles the brides hair, she finds the straighteners can't style her hair. She then realises that she has never actually styled Afro textured hair with these straighteners before. Sarah is embarrassed but her client says, 'it's fine – this happens all the time'. Sarah refunds her client and contacts the company's customer service team, later that day. Sarah raises her issues of the product working well on other textured hair but poorly with Afro textured hair. The representative replies 'we conduct extensive user studies with all our products, so we know that they are the best for most women's hair. Perhaps you had the settings wrong?'

Scenario 3: Patricia is an elderly woman with early onset Alzheimer's disease. She currently lives alone in a bungalow since her husband passed away. During the imposed lockdowns due to Covid-19, her daughter purchased her a tablet and downloaded social media sites on the tablet so that they could communicate with one another remotely. Patricia received an email from an unknown email address asking for bank details as she must pay for her upcoming Covid-19 vaccine. She enters her bank details. Later that day, Patricia receives a call from her bank stating she has been 'scammed' and large funds have been taken from her account.

Conclusions & Closing Remarks

The authors hope that these scenarios stimulate thinking, discussion and future works at the intersection of E/HF and EDI whilst highlighting the very real situations that can occur because of oversights in current E/HF thinking and practice. What becomes clear from these scenarios is that these types of situations can often be difficult to navigate and negatively impact human well-being but could have been 'designed out'. Thus, failing to respectfully consider EDI as a human factor may undermine the fundamental goals of the E/HF discipline. To date, there is currently little-to-no published guidance on how best to navigate and/or mitigate many of these scenarios. As such, the authors encourage interested parties to reach out to the research team with ideas on how to collaborate, promote best practice, and build communities in this emerging space.

References

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