Incorporating Psychologically Appearance Method for Virtual Classroom Learning Environment

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Abstract. We impute individual attributes to physical product looks to a possession of physical product attachment, similar to how we may interpret human social standing or an intellectual level that is based on work titles. Accordingly, this study aims to investigate whether these effects are transferred by association to their owners' on the webinar through the use of a different background screen. During the COVID 19 pandemic, online distance learning (ODL) was practised through the webinar, live broadcast, and telecast. Despite these solutions, variety activities of psychological repercussions appeared due to the lack of face-to-face engagement between the students and lecturers. Correspondingly, the Room Effect was discovered to be utilising an environmental psychology approach; it illustrates the various perceptions of the same individual's image based on the different settings. A prior study has found different unanticipated 'Product Effects' where female genders have been moderately impacted, however, the male genders are not seen differently. This study discusses upon the possible psychological gender affect 'Interior Effects' in ODL for learning interaction.

Keywords: Virtual classroom, Classroom transference, Creativity interaction, User psychological environment.

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1 Introduction

During the Covid-19 pandemic, regular Online Distance Learning (ODL) was conducted around the world through web conference, webinar, live broadcast, and telecast. ODL is a teaching approach in which students can complete their studies from anywhere because they are not obliged to physically attend lectures [1]. Despite the benefits of these solutions, these activities have a variety of psychological impacts on the students because there is no direct face-to-face engagement or tangible interaction between them and the lecturers or the audiences and participants. Students were expected to learn at home and put the ODL into practise; no one was allowed to have face-to-face classes or even to physically engage with one another. Lecturers were also requested to teach online and to work from their homes [2]. According to Maphosa and Bhebhe [3], in an online context, students in higher education should have the ability and management to learn communication and teamwork abilities [4].

Open Distance and e-Learning ODL are examples of the digital innovation that has been created by educational institutions in response to a society that is shifting towards a digital lifestyle or as the pandemic solution for Covid-19. As a result, learners must be digitally literate in order to function effectively in today's digital world [3]. ODL poses a number of problems to students during the MCO, according to numerous research [2]. Some students are familiar with ODL because they have used it in the past, but their use is combined with in-person lectures or consultations. During the MCO, however, students are unable to converse with or to physically interact with their lecturers. According to Almaiah, Al-Khasawneh, and Althunibat [5], ODL causes the students stress and lowers their motivation and confidence. The effectiveness of learning acceptance and the reliability of online exams are also in question, raising concerns about the students' overall academic success [6]. Figure 1 illustrates an online webinar through a desktop screen computer that is applying virtual tools such as Google Classroom, Google Meet, webinars, TutorRoom, and others in order to interact, discuss, and to conduct the teaching and learning process [2].

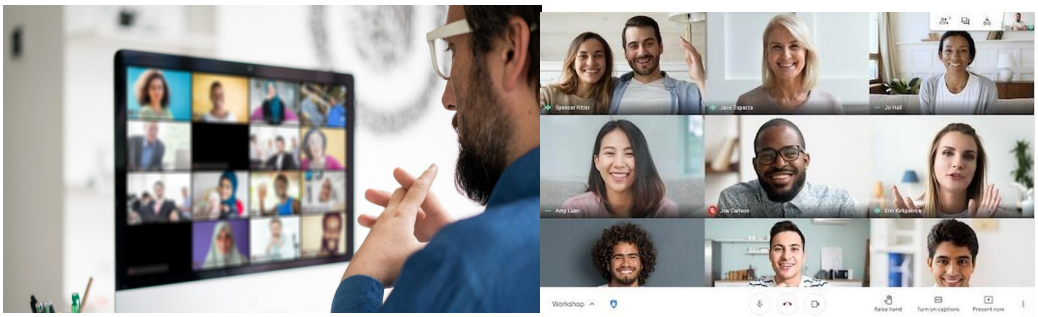


Fig. 1. Online webinar and screen layout of an online conferencing, source: [7] [8]

The purpose of this study was to assess the personality effect on person portrayed a difference background effect in webinar screen for pilot survey. The goal is to see whether these product appearances are conveyed to their psychological owners through association in an online webinar learning setting with different background screens. Figure 2 illustrates the webinar screen when communicating through an online platform using a variety of virtual tools. The user uses a different background screen layout whether it is the live interior of the office or house, outdoor and indoor, and freely chooses any virtual background that is ready in his or her online tools.

2 Room Effect Overview

A common feature of this method is the emphasis on the product itself, and how people perceive and assess it, rather than the person who is connected with the product: in other words, the influence the product has on how people perceive its owner. As such, environmental psychology is a method that can be used as an alternative. The Room Effect refers to the impact of the environment on a person's perceptions in a room. A review was conducted that revealed diverse theories about environmental psychology methodologies. Notably, the 'Room Effect,' as hypothesised by Canter, West, and Wools, contends that people are also capable of associating their surroundings with their personality type [9].

The approaches have supported the conclusion that a person's judgments are influenced by the room in which they are located. Furthermore, Lawrence and Leather have found that the environmental factors influence the stability of an occupational stereotype [10]. Images from a research of the impacts of backgrounds on people's judgments illustrate the 'Room Effect' approach, in which an individual's judgments are influenced by the room in which the person is situated [9]. The experiment shows that the inference rules work by assuming that people and their physical circumstances are similar. In three trials, the researchers have used photographs of people who have been placed on various backdrops to achieve the results. Figure 2 shows the *Room Effect* method applications. The first analysis utilised line pictures of spaces with individuals seated in them, whereas the experimental work had employed colour photos of real interiors, where both architecture as well as non-architecture students had rated the rooms. The final experiment involved superimposing head and shoulder images of humans onto various room backdrops. Respondents were instructed to rate the people who were depicted in the drawings without being informed of the changes. The ratings varied substantially depending on the setting in which the persons had been observed [11]. The results revealed that the ratings differed substantially depending on the situation. The results show that the people's interactions with the environment are impacted by the interpretations they assign to it, and that this influences the expectations for the behaviour within a particular situation.

Fig. 2. Room effect method, source: [11]

In 1956, an observation of a comparable Room Effect research had been conducted, the characteristics of the room had impacted the assessments of the people's faces that were associated with the room [12]. The identical faces in a 'beautiful' room were seen to be more 'energetic' and possessed 'well-being' rather than someone in an 'ordinary' room, which was thought to have more 'energetic' and 'well-being' than those in a 'unattractive' room [13]. Likewise, the study revealed a relationship between the appearance of a professor's office and the predicted characteristics of the professor who would have been placed there [14]. Supporting these findings, a recent research in product design has shown a strong support for the existence of a *Product Effect*, similar to the *Room Effect* [15, 16].

For this study, the Room Effect approach was used and adapted to the 'picture stimuli'. However, because the study focused on the participants' reactions to judging and perceiving the human image in the interior space in a webinar, questions about human personality had to be included. As a result, a review of personality studies was carried out.

2.1 Five factors model of Personality Traits

Other researchers, commencing with Fiske in 1949 and continuing with Lorr in 1986, have established other sorts of Five-Factor Models of Personality Traits that include a larger range of characteristics to portray the individual diversity. Most of these categories have been researched and produced in relation to a variety of factors that may be examined using strong accuracy and reliability and offer a trustworthy answer to the questions of personality characteristics [17]. Since a human picture and an interior have been included in the survey, researching the Interior Effect is essential in establishing the connection involving human character and the webinar screen background in this study. Participants were given an image of an office interior (luxury) and a plain dark screen (none) as the background, together with a human model as the stimuli in the survey for this study. Accordingly, the stimulus personas were created using the human personality dimensions.

Human personalities have five dimensions, which are as follows: 1) Agreeability; 2) Extraversion; 3) Conscientiousness; 4) Neuroticism; and 5) Openness to Experience [18]. These factors are known as the Five-Factor Model of Personality traits (FFMP), which were modified to serve as 'textual stimulus' for the interior webinar evaluation. In previous studies on consumer behaviour, several academicians were using standardised individual personality measurements to evaluate the character of products or service, including Gordon's Personal Profile, Edward's Personal Reference Schedule, Thurstone's Temperament Schedule, McClosky's Personality Inventory, Dunnette's Adjective Checklist, and Cattell's 16-Personality Factor Inventory and Product-anchore [19, 20]. As a result, the personality or consumer behaviour researcher will

need to construct a personality inventory scale to describe product personality. Several studies have found that product aesthetics are linked to product personality perceptions, and personality traits have been identified as the dependable criteria that may be used to identify the underlying perceptual processes that drive product personality views [21]. The Big Five, which is also known as the FFMP, are fundamental attribute categories that contain the meaning of personal attributes and have been used in numerous countries and cultures to investigate cross-cultural meaning [17, 22-25].

As a result, the usage of FFMP coupled with the Room Effect strategy is thought to serve the study purposes by enhancing the other research objectives [26]. Previous research had found a link between product use and personality features, thereby the goal of this study was to find an effect that was applying this technique [27, 28]. The overviews of the Room Effect technique and The FFMP traits have provided the fundamental objective of this study in this regard.

3 Methods

A questionnaire with eight sets of photos was used to collect information. Each image had featured a unique collection of stimuli that included two independent variables: the interior background, the model's gender, and the model's nationality. The survey has 17 questions, including 13 from the Five-Factor Model of Personality Traits, two questions concerning the stimuli, and two questions about the participant's age and gender. The two stimuli-related questions required the participants to estimate the models' education and income. Figure 3 has illustrated the stimulus through pictures in the survey. These surveys have been created to see whether the appearance of the interior design as a background in webinar influences the perceptions of the human models' physical and demographic characteristics in the images. The format of the questionnaire is shown in Table 1. The participants' degree of agreement or disagreement with each of the personality characteristic claims was assessed using a nine-point Likert scale [29]. Seventeen questions that focused upon the personality characteristics of the models were developed. The questions were based on the FFMP traits covering Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience [30]. This rationale was that a wide range of personality qualities was required without risking the challenge of having too many questions for the participants to answer, therefore two to three attributes had been selected for each category. Table 1 shows the features that have been used to design these questions. The attributes that are listed in Table 2 have been used to create a collection of assertions. The statements were randomly assigned to the participants using a Table of Random Numbers, and they were given in either the first or reverse order. This counterbalance was thought to be necessary to account for any order effects [31].

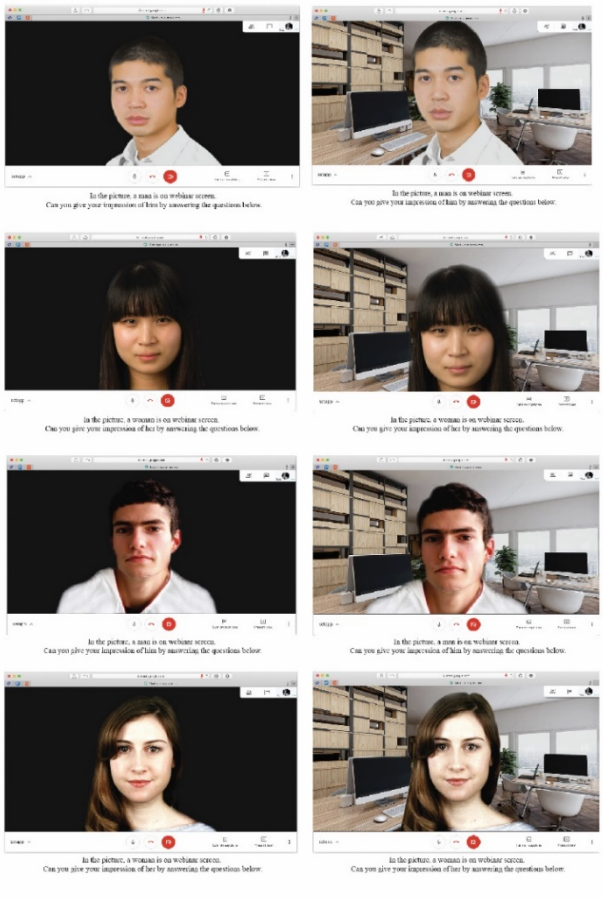


Fig. 3. Eight Sets of stimulus material that are used in the survey

Research also indicates that the dimensions of Agreeableness, Extraversion and Conscientiousness are relevant to the product appearance [32]. The purpose of altering the personality attributes questions in this survey was to see if there were any possible transfer effects from the interior background to the model (the Interior Effect). Every one of the personal characteristic phrases were supported by a nine-point Likert scale to reflect the level of agreement or disagreement among the participants [29]. The participants took about 15 minutes on average to complete the questionnaire in total.

Table 1. Types of personality adjectives that are used based on the Five-Factor Model of Personality traits

Item	Questions	Theme
Q1	Your Age	Demographic
Q2	Your Gender	
Q3	What level of education did he/she achieve?	Education
Q4	What do you think his/her annual income will be?	Social attributes

Q5	He/She is creative	Opennes to experience
Q6	He/She looks open to new ideas	
Q7	He/She looks stylish	
Q8	He/She looks friendly	Agreeableness
Q9	He/She looks unstable	Neuroticism
Q10	He/She looks trustworthy	Agreeableness
Q11	He/She is attractive	Extraversion
Q12	He/She looks reliable	Conscientiousness
Q13	He/She looks efficient	
Q14	He/She appears organised	
Q15	He/She looks anxious	Neuroticism
Q16	He/She is elegant	Extraversion
Q17	He/She appears kind	Agreeableness

Table 2. Types of personality adjectives used according to FFPM traits

Extraversion	Agreeableness	Conscientiousness	Neuroticism	Opennes to experience
attractive	friendly	reliable	unstable	creative
elegant	trustworthy	efficient	anxious	open to new ideas
-	kind	organised	-	stylish

4 Result and analysis

With 57 evaluated samples, the data were analysed using Google Form and were distributed to the participants through the *WhatsApp* social media platform application. The completed surveys were included in the study.

Table 3. Background characteristics of participants

Item	Number	Percentage
Gender		
Male	21	36.8 %
Female	36	63.2 %
Age		
Under 20	12	21.0 %
21 - 25	24	42.0 %
26 - 30	12	21.0 %
31 - 35	3	5.5 %
36 - 40	2	3.5 %
41 or above	4	7.0 %

The survey has been conducted online with Universiti Teknologi MARA (Kedah branch campus), Sultan Idris Education University UPSI (Perak), and University of Malaysia, Sarawak UNIMAS (Sarawak), which are all based in Malaysia. Based on these locations it covered participants located in the North and Centre of West Malaysia and Sarawak on East

Malaysia and based on simple random sampling. The study featured 57 participants (*N = 57*); this study has a limited sample size owing to the pilot survey, and the major objective of this study is to examine the viability of a method that will ultimately be used in a bigger size study.

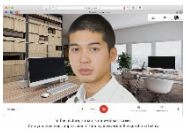
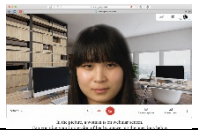
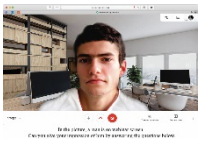
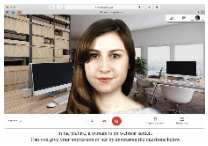
Nevertheless, if the sample sizes are more than 30 and less than 500 they are acceptable for most studies which have included w of males or females and juniors or seniors, thereby a minimum sample size of 30 is sufficient for each category [33]. In spite of this, an effective study may be carried out with samples as small as 10 to 20 in size, for fundamental experimental research with tight experimental controls (matched pairs, etc.) [34]. This sample size is deemed as adequate for this study since it is a pilot survey. The demographic information of the participants is summarised in Table 3.

The results indicate that there is an *Interior Effect*, but it is a very selective one. Participants regarded all the models in a plain dark background to be lower in education and income compared to the models with the interior background. When the gender data were examined independently, it was discovered that the Caucasian female's perceptions were unaffected, while the Asian male's and female's perceptions oppositely differences. For the Asians, there were more pronounced effects: the Asian male personality was opposite, perceived as not creative, not stylish, looks unstable, not attractive, not reliable and not elegant with a dark plain background.

However, Asian male were perceived to have looked trustworthy, organised and attractive in an interior background. The Asian female was perceived as not creative, not stylish, not friendly, not kind and not elegant with a dark plain background. However, with the office interior background this stimulus was perceived as creative, stylish and friendly. The Caucasian male was perceived as part of a more affluent personality, i.e., stylish, efficient, organised and kind, with the interior background, but was perceivably rated as not open to new ideas, not friendly and not kind when a plain dark background was used.

Table 4. Survey results

Set	Education	Income	FFPM
Set 1	Bachelor Degree	Below 20K	☐ Not creative ☐ Not stylish ☐ Looks unstable ☐ Not attractive ☐ Not reliable ☐ Not elegant

Set 2 	Master degree	40K	☐ Looks trustworthy ☐ Organised ☐ Attractive
Set 3	Master degree	30K	☐Not creative ☐Not stylish ☐Not friendly ☐Not kind ☐Not elegant
Set 4 	PhD	50K	☐ Creative ☐ Stylish ☐ Friendly
Set 5	Bachelor Degree	40K	☐ Not open to new ideas ☐ Not friendly ☐ Not kind
Set 6 	PhD	80K	☐ Stylish ☐ Efficient ☐ Organised ☐ Kind
Set 7	Bachelor Degree	40K	☐ Trustworthy ☐ Reliable ☐ Attractive ☐ Not efficient
Set 8 	Master degree	60K	☐ Creative ☐ Open to new ideas ☐ Stylish ☐ Friendly ☐ Not anxious ☐ Elegant ☐ Kind

5 Conclusion and Future Recommendation

The Interior Effect was more pronounced for the Asian stimuli in the study rather than for the Caucasian stimuli, which raises an intriguing topic. The research by Khoo and Karan [35] could provide an explanation, as it has discovered that Caucasian pictures are more commonly included in internet and print ads. Caucasians may be preferred simply because they are more familiar, as images of Caucasians are more frequent in the different media presentations by the participants. This points to a 'mere exposure' effect, in which familiarity confers desirable characteristics [36]. Numerous studies have demonstrated the presence of this effect, which is also known as the 'familiarity principle' and 'affect referral' [37, 38].

Further study would recommend an extensive analysis of Factor Analysis and Generalised Estimating Equations (GEE) in order to identify the factor that relates to the human model of personality. The recommendation for further study would be to conduct a large-scale survey involving different stimuli so as to assess the 'Interior Effect', and possibly to propose the preferred features and categories of background screen by the users mostly. Future recommendation for this study would recommend a possible pre-selection process of stimuli of model and interior layout in a separate survey; the possibility of developing a questionnaire in dual language will add to the enhancement of the survey if it brings significance to the data collection during the process. This could be a possible amendment and enhancement before collecting data in a bigger size study.

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