

Creation and validation of the online self-disclosure via educational platforms scale

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ABSTRACT

Globally, higher education (HE) institutions now implement some element of hybrid learning, heightened since the COVID-19 pandemic and temporary shift to online learning. To communicate, online self-disclosure (revealing information about the self) is required. The majority of HE students are aged between 18-24 years, which is considered the developmentally sensitive period of 'emerging adulthood'. Having only ever known a digitally-connected world, emerging adults self-disclose differently to other generations when communicating via an online environment. Whilst communicating online with HE staff, students may self-disclose in a way that misaligns with the expectations of staff; this may result in miscommunication or over-disclosure (revealing inappropriate information to a misjudged audience). Over-disclosing via online educational platforms (e.g., Moodle, MS Teams, and e-mail) may result in negative feedback from staff and this may impact student experience, engagement and attainment. Problematically, no standardized measure exists that captures student self-disclosure via online educational platforms and so research on this topic is currently limited and theoretically unstable. Via a three-phase study, comprising four studies and 283 participants, we have created and conducted an initial evaluation of the online self-disclosure via educational platforms (OSDEP) scale. The OSDEP scale is the first psychometric tool to specifically measure HE students' online self-disclosure behaviors specifically within an online educational context. The OSDEP scale can be used for future educational and pedagogical research to further understand HE students' online self-disclosure behaviors and to what extent these may be associated with topics such as mental health, engagement, attainment, and student experience.

Keywords: higher education, students, online, self-disclosure, psychometrics

INTRODUCTION

Online communication, such as emails, has been an element of university life since the early origins of the Internet. Since the COVID-19 lockdowns, whereby higher education (HE) was forced online, the use of a broader range of online communication tools (e.g., forums and direct messaging) has become more integrated within university life (Office for Students, 2022). Online self-disclosure, revealing information about the self within an online environment (Kim & Dindia, 2011), is required in order to communicate online. Students typically communicate online with staff in order to ask for help (Fan & Lin, 2023); some level of self-disclosure is required in order to outline the help needed. Online self-disclosure is facilitated by the online disinhibition effect (Suler, 2004), whereby the reduction of verbal and nonverbal cues (e.g., vocal tone and eye contact) eases the process of disclosing. According to the tripartite self-disclosure decision model (Ostendorf & Brand, 2022), environmental features may further facilitate online self-disclosure.

In relation to online educational platforms, the environmental feature of communicating within an educational context motivated by help-seeking may further facilitate online self-disclosure. However, the ease of online self-disclosure is risky. If a student misjudges their audience and discloses inappropriately (over-disclosure, Kim & Dindia, 2011) this may receive a negative response from staff. Students may be left feeling anxious subsequently impacting student experience as well as attainment.

This area of research is still very new and requires much exploration. Problematically, no standardized measure currently exists that specifically focuses upon students' self-disclosure via online educational platforms. This study aims to create and validate a scale that directly measures students' self-disclosure behaviors via online educational platforms. Importantly, the creation of this measure will allow for further pedagogical and educational research that can investigate the motivations behind, experiences of, and outcomes of HE students' communication with staff online.

Self-Disclosure via Online Educational Platforms

Although the age range of HE students is very broad, particularly when considering mature students, the majority of students studying at HE institutions are within the age bracket of 18-24 years (HESA, 2023). Within recent years, a growing body of research has identified that this age bracket is in fact developmentally sensitive and defined by Sawyer et al. (2018) as 'emerging adulthood'. Emerging adults have only even known a world, where online self-disclosure exists (Stockdale & Coyne, 2020). Self-disclosure in general forms the basis of information exchange and due to the limited external information available within online contexts online self-disclosure relies on even more information in order to connect with others (Nguyen et al., 2012). Having only ever known a digitally connected reality, whereby online self-disclosure is facilitated, emerging adults may be more likely to self-disclose than older generations (Bjornsen, 2018). The majority of HE academic staff are aged 31 years and above (HESA, 2015) and are thus generationally different to students. Having known a time, where online communication was far less integrated into society, HE staff may have different opinions to students regarding online self-disclosure. In fact, Waycott et al. (2010) previously evidenced that students and staff have differing perceptions of online appropriateness, and we see similar findings more broadly in the literature (Lohnes & Kinzer, 2007; Park, 2010). Problematically, the misalignment in perceptions of and experience with online self-disclosure may put students at risk of misjudging their online self-disclosure and this could result in miscommunication or even offending staff.

Drawing upon self-regulated learning strategy (Schunk & Zimmerman, 2012), students utilize help-seeking behaviors in order to independently source information that can aid them in reaching their academic goals (Aleven et al., 2003; Arbreton, 2012). Online educational platforms such as (and not limited to) Moodle, Blackboard, and Google Classroom provide a digital space for students to exert help-seeking behaviors in order to source information (Er et al., 2015). In-person, students are quite limited in opportunities for utilizing help-seeking behaviors to ask HE staff questions. For example, students may have limited contact with a particular staff member (Money et al., 2017) or limited time to meet with them (Winstone et al., 2016). Alternatively, we know that levels of anxiety are rising in HE students (Office for National Statistics, 2021); in fact, 71% of HE students feel anxious about attending lectures and seminars (Chegg, 2022). This anxiety may hinder students utilizing help-seeking behaviors to ask questions in-person especially if the only opportunity to ask these questions is in front of large groups (e.g., a lecture; Russell & Topham, 2012). Online educational platforms, on the other hand, provide a space, whereby students can utilize help-seeking behaviors in a more efficacious manner. Drawing upon the tripartite self-disclosure decision model (Ostendorf & Brand, 2022), online educational platforms provide an environment, where students have more time to consider how they wish to seek help (e.g., how to phrase their question; Chen & Denoyelles, 2013; Puustinen et al., 2015) as well as more time to reflect upon what they need help with (Koc & Liu, 2016). Online educational platforms also provide an opportunity for students to seek help synchronously (e.g., video call, direct

messaging with a timely response) or asynchronously (e.g., posting on a forum and awaiting a response), as well as privately (e.g., email) or publicly (e.g., messaging on a forum). Students may therefore feel more comfortable utilizing help-seeking behaviors via online educational platforms than in-person; we know this is the case in non-student populations (Joinson, 2001; Joinson & Paine, 2007; Tidwell & Walther, 2002). In turn, students may be facilitated by the online disinhibition effect and disclose more when communicating with staff online.

Current Online Self-Disclosure Measures

Early self-disclosure research highlights the importance of measuring self-disclosure in context. Situational factors shape the way in which we self-disclose and thus the environment of which self-disclosure occurs needs to be acknowledged when measuring self-disclosure (Cozby, 1973; Wheelless & Grotz, 1976). The tripartite self-disclosure decision model (Ostendorf & Brand, 2022) recognizes this theoretically, but current measures of self-disclosure are lacking in their environmental specificity. Kim and Dindia (2011) argue that the environmental context of online self-disclosure is especially important particularly when we consider the influence of the online disinhibition effect facilitating the breadth and depth of self-disclosure (Suler, 2004). Measures of online self-disclosure should therefore refer specifically to particular online environments as the nature of self-disclosure may differ; for example, self-disclosing anonymously in a chatroom will likely differ from self-disclosing on a social networking site (Antaki et al., 2005; Cho, 2007; Kim, 2007; Schlosser, 2020).

Problematically, Towner et al. (2022) highlight that studies are not specifying environmental context when measuring online self-disclosure. Via a systematic review, Towner et al. (2022) identified that researchers are adapting pre-existing self-disclosure measures (from as early as the 1990s) so that they relate to the online environment in general. Alternatively, many researchers use online self-disclosure scale (Schouten et al., 2007), which was adapted from self-disclosure scale (Miller et al., 1983). Drawing upon these two methods for measuring online self-disclosure presents issues with the operationalization of online self-disclosure. Firstly, adapting pre-existing self-disclosure measures so that they refer to the online environment in general limits the theoretical applicability of these items to online self-disclosure. We know that both the motivations behind self-disclosure and the way in which we self-disclose are different online compared to offline (Joinson, 2001; Joinson & Paine, 2007; Tidwell & Walther, 2002) and so the theoretical operationalization of the original self-disclosure scale items will not apply to the online environment simply by putting the word 'online' within the items. Secondly, although online self-disclosure scale (Schouten et al., 2007) has been appropriately evaluated as a psychometric tool, it only refers to the specific environment of communicating intimately with others online. Plenty of other online environments exist, where one may self-disclose but not necessarily with the motivation of building intimacy; for example, online chatrooms (Ignatius & Kokkonen, 2007). Online self-disclosure behaviors may therefore be at risk of mismeasurement.

Contena et al. (2015) do present an example of a psychometric measure of online self-disclosure, which considers a specific environmental context. Originally developed by Krasnova and Veltri (2011), a scale measuring online self-disclosure specifically within social networking sites was developed and then evaluated by Contena et al. (2015). The items within this scale were specifically designed with the environment of social networking sites in mind. Importantly, this ensured that the operationalization of online self-disclosure specifically related to the motivations and behaviors within social networking sites. Examples such as this, however, remain limited within online self-disclosure literature.

Research Focus

HE students are utilizing the online environment to communicate with staff. As predominantly emerging adults, students are not only developmentally different from staff but also immersed within a digital society of which they have never known any different. We know that emerging adults self-disclose online more than adults. Motivated by help-seeking behaviors, students are likely to self-disclose even more. Very little is currently known about students online self-disclosure behaviors. Elsewhere in online self-disclosure literature we know that over-disclosure is a risk. Students may therefore be at risk of over-disclosing to staff, which may have repercussions on student-staff relationships, engagement and attainment. It is important that online self-disclosure is measured within specific environmental contexts. Thus, in order to quantitatively measure students' online self-disclosure behaviors, a psychometric tool specific to online educational platforms is required.

Within this study we aim to create and conduct an initial evaluation of a psychometric tool, online self-disclosure via educational platforms (OSDEP) scale, that quantitatively measures HE students' online self-disclosure behaviors specifically within the environmental context of online educational platforms. Three phases of this study were completed: phase one comprises the item generation drawing upon a qualitative approach, phase two comprises an exploratory factor analysis and confirmatory factor analysis to evaluate the scale metrics, and phase three comprises theoretical validation of the scale by investigating its convergent and divergent validity to self-disclosure. Importantly, the creation of the OSDEP Scale will allow for further pedagogical and educational research to be conducted exploring the role of students' online self-disclosure behaviors. Potential future impacts of this scale include a greater understanding of the role of the online environment within student-staff communication, student engagement and attainment, and even the relationship between students' online behaviors and their mental health and wellbeing.

METHODS & RESULTS

The development of the OSDEP Scale was conducted in accordance with Boateng et al.'s (2018) guidelines for the creation and validation of scales for health, social and behavioral research. A three-phase process was administered.

Phase one focused upon specifying the theoretical domain of the scale and ensuring that each item reflected the reality of the target population; this comprised item generation, which was then evaluated by experts, which in this instance was a group of undergraduate students within the emerging adulthood (18-24 years) developmental stage. Phase two focused upon scale validation via testing the scale within the target population, item reduction and factor extraction to ensure that the latent constructs fit our observed data. Phase three focused upon scale evaluation via testing the construct validity of the scale to ensure that the theoretical concept of the scale was robust. As per Chesney et al.'s (2006) guidance, two separate heterogenous samples were used across phases two and three to ensure our results were not restricted to one homogenous sample.

Phase One: Item Generation

Regarding the theoretical domain of the OSDEP Scale, we identified emerging adults studying at university, online self-disclosure and online educational platforms as our core theoretical constructs. We then defined these domains, as follows: emerging adults studying at university was defined as 18-24 year-olds (Sawyer et al., 2018) enrolled at a university; online self-disclosure was defined as revealing information about the self within an online environment (Kim & Dindia, 2011); online educational platforms was defined as online platforms that are used within HE settings, such as email accounts, forums and virtual learning environments (Hayes, 2024). Combined, these domains have very little pre-existing research and so an inductive method was appropriate for exploring potential items, which captured the core theoretical constructs we sought to measure. Therefore, the second stage of item generation comprised an inductive method, whereby we conducted a focus group with emerging adults currently enrolled at university.

Participants

Through opportunistic sampling, whereby the lead author contacted university students known to them, five participants took part in the focus group. Participant ages ranged between 19 and 22 years (mean_{age} [M_{age}]=20.2 and standard deviation_{age} [SD_{age}]=1.01) and were primarily female (n=four female and one male). Majority of the students were white British/European (n=4, one student was East Asian) undergraduate students studying psychology (n=4; one participant studied computer science) at a university based in the UK.

Procedure

The procedure of this focus group was administered in accordance with consolidated criteria for reporting qualitative research checklist (Tong et al., 2007). Ethical approval was granted by the research ethics committee at the authors' university and the ethical guidelines of the British Psychological Society were followed throughout. The lead author conducted the focus group. The focus group took place in a meeting room on-campus at the authors' university during September 2022 and lasted for 74 minutes. Prior to commencing the focus group, participants were provided with an information sheet and consent form, and the opportunity to ask any questions about the study. Once all participants had signed the consent form, the lead author reiterated the

purpose of the study and then proceeded with the focus group. At the end of the focus group, all participants received a debrief form providing further information and the contact details of both authors. The focus group was not recorded, rather, the lead author took notes and asked questions whilst the participants discussed.

The main body of the focus group comprised discussing 41 items that the authors had already created based upon the domain identification. Please see [Appendix A](#) for an overview of these items. The lead author displayed each item on a screen, one-at-a-time, and asked participants to discuss

- (1) the clarity of the item (e.g., the accuracy of terminology such as ‘posted’ and ‘commented on’),
- (2) how they would respond to the item, and
- (3) how relevant they thought the item was to university students.

Following this, the lead author displayed each item again and asked participants whether they thought the item should be retained or removed.

Results

Following the focus group, five items were removed because the participants felt that they were either too unlikely or not relevant to students’ realities, and because the associated names were not viewed as gender neutral. One item was added, which the participants felt more accurately captured the notion of a student self-disclosing about financial concerns: “Sasha emailed their lecturer explaining that they could not afford the Internet at home”. Of the remaining items, minor adjustments were made; for example, all items with ‘direct messaged’ were reframed to ‘messed their [personal tutor/semnar tutor/lecturer] directly’ as participants felt that ‘direct messaged’ could be misconstrued as using private social media (such as Instagram) to contact staff rather than online educational platforms (such as the direct messaging function on MS Teams). Following these amendments, the OSDEP Scale comprised 36 items (please see [Appendix B](#) for a full outline of these items).

Phase Two: Scale Validation

To investigate the underlying latent factors of the OSDEP Scale, an exploratory factor analysis was conducted with a sample of emerging adults currently at university. To explore the test-retest reliability of the OSDEP Scale, a confirmatory factor analysis was then conducted with a separate sample of emerging adults currently at university.

Exploratory factor analysis

To investigate the underlying latent factors of the OSDEP Scale and whether item convergence was identifiable, an exploratory factor analysis (Hayton et al., 2004; Hurley et al., 1997; Orcan, 2018) and Cronbach’s alpha (Chan & Idris, 2017) were conducted. Additionally, item reduction analysis was also conducted, drawing upon classical test theory (CTT), in order to explore internal consistency of item relatedness (Boateng et al., 2018; Thurstone, 1947).

Table 1. Overview of participant demographic information for exploratory factor analysis sample

Variable	n	%
Gender		
Female	89	64
Male	47	34
Other/not specified	3	1
Ethnicity		
White	81	58
Asian	35	25
Mixed	10	7
Black	7	5
Arab	4	3
Other	2	1
Undergraduate	131	94
Level of study		
Postgraduate	6	4
Not stated	2	1
Country of study		
United Kingdom	130	94
North America	3	2
Europe	2	1
Japan	1	<1
Not stated/unidentified	3	2
Topic of study		
Social sciences	59	42
Performing arts	16	12
Mathematics & finances	11	8
English studies	9	6
Natural sciences	9	6
Computer sciences	7	5
Medicine	6	4
Modern foreign languages	5	4
Engineering	4	3
Sport	4	3
Law	3	2
Not stated	5	4

Participants

A-priori power analysis was calculated with an anticipated correlation coefficient of 0.20 and desired power of 85%, resulting in a proposed sample size of 91 (Cohen, 1988). A total of 139 participants ($M_{age}=20.05$ and $SD_{age}=0.99$) were recruited from February to April 2023 using an opportunistic and snowballing sampling method via posting adverts about the study on both author’s social media (Facebook, Instagram, LinkedIn, Reddit, and Twitter). Participants were primarily female (89 female and 47 male) with three participants preferring not to specify. Majority of participants stated their ethnicity as White ($n=81$) and were studying social sciences ($n=59$) at undergraduate level ($n=131$) at a UK university ($n=130$). Please see [Table 1](#) for further descriptive information.

Procedure

Ethical approval was granted by a UK HE institution ethics committee following the ethical review process. British Psychological Society ethical guidelines were also followed throughout the data collection and analysis stage of this project.

Participants were invited to complete an online survey via the Qualtrics Platform (Qualtrics, Provo, UT). Following consent to participate and demographic questions, participants were presented with the OSDEP Scale. Participants were presented with the following brief: 'We would like to know about your online communication behaviors with university staff. Please read the statements on the following pages and indicate to what extent you would do something similar'. The participants were presented with a vignette (e.g., 'Casey advertised a house party on a student-staff forum'; see [Appendix C](#) for the complete set of items) and were asked, 'What is the likelihood that you would do something similar?'. These questions were asked in sets of six with each new set beginning on a new page and a progress bar at the top of the page allowing participants to monitor their progress; this was done to minimize potential survey fatigue effects. A five-point Likert scale ranging from 'very unlikely' to 'very likely' was used; items were forward coded (zero very unlikely and four very likely) with higher mean scores indicating greater self-disclosure and a higher risk of over-disclosure.

After completion, participants were fully debriefed, provided with both author's contact details and given the opportunity to provide their e-mail address for a £10 Amazon Gift card (used as an incentive for participation). Email addresses were immediately exported and stored separately to participant data to ensure anonymity.

Design & analysis

Data was exported from Qualtrics Platform (Qualtrics, Provo, UT) into a .csv file and imported into R software (R Core Team, 2021) for analysis. Assumptions of homogeneity and multicollinearity were checked, and no violations were identified. An exploratory factor analysis was conducted to reduce items into factor loadings based upon their cumulative variance (Schreiber, 2021). Principal axis factoring with a direct oblimin rotation was conducted to determine the number of factors and these were interpreted via a scree plot and parallel analysis. Good model fit indices were identified as a Tucker-Lewis index (TLI) of >0.90 (>0.80 as average); root mean square error of approximation (RMSEA) of <0.05 (<0.08 as average); standardized root mean square residual (SRMR) of <0.05 (<0.09 as average); goodness of model fit >0.90 (>0.80 as average; Browne & Cudeck, 1992; Byrne, 1998; Hu & Bentler, 1999; Kline, 2015).

Results

In accordance with Howard's (2016) recommendations, items were removed if their loadings fell below 0.30; this resulted in two items being removed from the scale ('Neo messaged their personal tutor directly asking how to book social events online' and 'Meng Yao posted on a student-staff forum about their inability to study due to noisy neighbors'). From the scree plot (please see [Figure 1](#)) two factors were retained above Kaiser's criterion of two and one factor was retained above Kaiser's criterion of one as the model fit indices significantly improved with the inclusion of this third factor (e.g., RMSEA decreased from a poor score of 0.09 to an excellent score of 0.04).

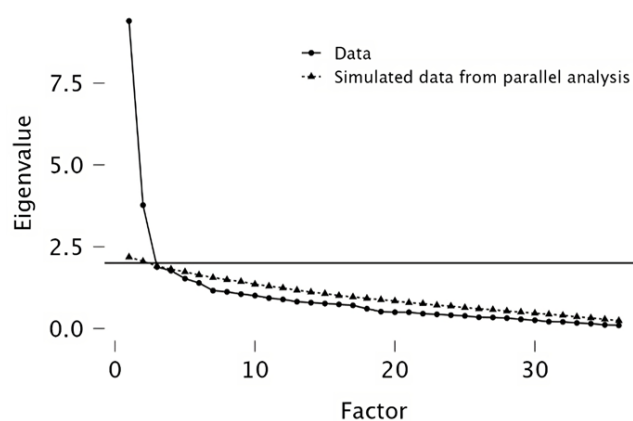


Figure 1. A scree plot indicating two factor loadings above Kaiser's criterion of two with one factor loading of 1.9 (Source: Authors)

As per CTT utilizing item reduction analysis (Boateng et al., 2018; Thurstone, 1947), items were inspected for internal consistency via inter-item and item-total correlations. One item ('Sam messaged their lecturer directly to ask a question about their module') presented a low item-total correlation score ($r=0.13$) and was thus removed from the scale. All remaining items were tested for inter-item correlations.

Factor one presented strong inter-item correlations predominantly within the good (0.2-0.4) and excellent (0.5-0.7) ranges; four items presented higher correlations (above 0.7) but were retained as they did not exceed the upper recommended limit of 0.8 (Ferketich, 1991; Tabachnik et al., 2013; Vedsted, 2008). No items in factor one presented a correlation below 0.15. Following this, factor one comprises 15 items on the theme of self-disclosing about personal life (e.g., 'Arden posted about their childhood trauma on a student-staff forum'); participants mostly responded to these items with "very unlikely" ($M=0.28$, $SD=0.81$).

Factor two presented good inter-item correlations predominantly within the acceptable range (>0.15 ; Glen, 2018). Three pairs of items presented weaker correlations (<0.15 ; Cohen, 1988) but these items did present higher correlations with other items in the factor and were not below the recommended cut-off (<0.10) and so were retained (for a similar process see Bagby et al., 1988 and Gasman et al., 2002). Following this, factor two comprises nine items on the theme of self-disclosing about university life (e.g., 'Jayden emailed their personal tutor to discuss their revision schedule'); participants mostly responded to these items with "neither likely nor unlikely" ($M=1.84$, $SD=1.36$).

Factor three presented strong inter-item correlations predominantly within the good (0.2-0.4) and excellent (0.5-0.7) ranges. One pair of items presented weaker correlations (<0.15 ; Cohen, 1988), but, as aforementioned, these items did present higher correlations with other items in the factor and were not below the recommended cut-off (<0.10) and so were retained. Following this, factor three comprises nine items on the theme of self-disclosing about specific health and financial matters (e.g., 'Jesse emailed the admin team about lecture non-attendance due to vomiting and diarrhea'); participants mostly responded to these items with "neither likely nor

Table 2. Following exploratory factor analysis, a summary of item-total correlations & final item loading scores onto each factor: factor 1: self-disclosing about personal life, factor 2: self-disclosing about university life, factor 3: self-disclosing about specific health and financial matters; higher mean scores indicate a greater likelihood to self-disclose; * $p < .05$, ** $p < .01$, & *** $p < .001$

Item	M (SD)	I-TC <i>r</i>	ILS
Factor one ($\alpha=0.91$)			
Idris messaged their lecturer directly about an argument they were involved with on social media.	0.24 (0.62)	0.60***	0.91
Alex sent their personal tutor a video of them at dance practice.	0.33 (0.68)	0.55***	0.85
Aatiq posted on a student-staff forum about an argument they had with a friend.	0.33 (0.69)	0.63***	0.84
Wan posted on a student-staff forum about receiving a large inheritance.	0.23 (0.65)	0.49***	0.76
Chakrit posted their swimming training schedule on a student-staff forum.	0.38 (0.71)	0.53***	0.73
Fern messaged their personal tutor directly informing them of their current bank balance.	0.32 (0.74)	0.60***	0.73
Casey advertised a house party on a student-staff forum.	0.33 (0.76)	0.56***	0.72
Arden posted about their childhood trauma on a student-staff forum.	0.29 (0.67)	0.50***	0.69
Wynter messaged their personal tutor directly with video evidence of their housemates' uncleanliness.	0.49 (0.87)	0.57***	0.60
Yura emailed their seminar tutor about friendships within the seminar group.	0.65 (0.87)	0.50***	0.57
Paige emailed their lecturer expressing anger about placing last in a competition.	0.47 (0.85)	0.50***	0.52
Billy emailed their personal tutor explaining they were too hungover to attend their meeting.	0.49 (0.89)	0.51***	0.48
Tori posted on a student-staff forum and referred to their best friend.	0.86 (0.98)	0.50***	0.36
Addison emailed their personal tutor and referred to their romantic partner.	0.65 (0.89)	0.47***	0.35
Zuri emailed admin team requesting an interruption upon discovering their romantic partner's infidelity.	0.63 (0.90)	0.43***	0.33
Factor two ($\alpha=0.77$)			
Eilish messaged their lecturer directly explaining they had to leave early to go volunteering.	2.19 (1.29)	0.53***	0.74
Mel emailed their personal tutor explaining their availability around sports training.	1.69 (1.32)	0.38***	0.54
Olly messaged their seminar tutor directly explaining absence due to a hospital appointment.	2.90 (1.07)	0.37***	0.53
Qi Yu advertised their society on a student-staff forum.	1.73 (1.28)	0.51***	0.52
Harmeet posted on a student-staff forum asking who was attending a departmental social event.	1.18 (1.21)	0.59***	0.48
Jayden emailed their personal tutor to discuss their revision schedule.	1.84 (1.29)	0.43***	0.47
Alva emailed their personal tutor about their ongoing health issues.	2.70 (1.12)	0.35***	0.36
Ola messaged their seminar tutor directly explaining their late arrival was due to visiting a grandparent.	1.17 (1.22)	0.55***	0.32
Khai posted a question about module attendance on a student-staff forum.	1.52 (1.22)	0.40***	0.31
Factor three ($\alpha=0.76$)			
Ogima messaged their personal tutor directly explaining that they had not received their student loan.	2.16 (1.35)	0.41***	0.62
Sasha emailed their lecturer explaining that they could not afford internet at home.	1.71 (1.31)	0.52***	0.61
Valery posted their top budgeting tips on a student-staff forum.	1.24 (1.22)	0.56***	0.49
Kerry messaged their personal tutor directly copies of scans from a hospital appointment.	1.10 (1.18)	0.45***	0.46
Cleo emailed their lecturer about the advice their therapist had given them.	0.97 (1.07)	0.57***	0.43
Kailea emailed the admin team asking about the financial support services.	2.48 (1.19)	0.39***	0.42
Marion messaged their seminar tutor directly explaining their late arrival was due to menstrual cramps.	1.06 (1.28)	0.46***	0.36
Jesse emailed the admin team about lecture non-attendance due to vomiting and diarrhea.	1.74 (1.40)	0.49***	0.31
Jody posted a question on the student-staff forum about taking an interruption for health issues.	1.60 (1.29)	0.44***	0.30

Note. I-TC:Item-total correlation & ILS: Item loading score

unlikely" ($M=1.74$, $SD=1.34$). Further descriptive information about the items and factors is presented within **Table 2**.

Overall, the model fit indices indicated a good fit, $CFI=0.87$, $RMSEA=0.04$, $\chi^2(432)=611.08$, with some average fit, $SRMR=0.06$, $TLI=0.84$. A Cronbach's alpha indicated excellent internal reliability of the overall scale, $\alpha=0.90$, and factor correlation scores all fell within the good range (0.2-0.4) indicating measurement of similar constructs.

Confirmatory factor analysis

As per recommendations by Worthington and Whittaker (2006), a confirmatory factor analysis was then conducted to investigate the test-retest reliability of the OSDEP Scale. A separate sample was utilized for this to ensure results applied to heterogeneous samples (Chesney et al., 2006). Again, item reduction analysis was conducted, drawing upon CTT, in order to explore internal consistency of item relatedness (Boateng et al., 2018; Thurstone, 1947).

Participants

A-priori power analysis was calculated with an anticipated correlation coefficient of 0.20 and desired power of 85%, resulting in a proposed sample size of 91 (Cohen, 1988). A total of 139 participants ($M_{age}=20.6$ and $SD_{age}=1.45$) were recruited from July to August 2023 using an opportunistic and snowballing sampling method via posting adverts about the study on both author's social media (Facebook, Instagram, LinkedIn, Reddit and Twitter) and via an online study participation portal (SONA). There was a fairly even split in gender identity amongst participants (77 females, 61 males) with one participant preferring not to specify. Majority of participants stated their ethnicity as White ($n=104$) and were studying Social Sciences ($n=73$) at undergraduate level ($n=116$) at a UK university ($n=118$). Please see **Table 3** for further descriptive information.

Procedure

The same procedure as that of the exploratory factor analysis was utilized with this sample.

Table 3. Overview of participant demographic data (number of participants & percentage across dataset) from study two including gender, ethnicity, level of study, country of study, & topic of study

Variable	n	%
Gender		
Female	77	55
Male	61	44
Other/not specified	1	<1
Ethnicity		
White	104	75
Asian	17	12
Mixed	2	1
Black	1	<1
Arab	1	<1
Other	14	10
Undergraduate	104	75
Level of study		
Postgraduate	116	83
Not stated	23	17
Country of study		
United Kingdom	118	85
North America	3	2
Europe	1	<1
Japan	1	<1
Not stated/unidentified	16	12
Topic of study		
Social sciences	73	53
Performing arts	18	13
Mathematics & finances	9	6
English studies	4	3
Natural sciences	4	3
Computer sciences	3	2
Medicine	3	2
Modern foreign languages	2	1
Engineering	1	<1
Sport	22	16
Law	73	53
Not stated	18	13

Design & analysis

Data were exported from Qualtrics to a .csv file and cleaned in Microsoft Excel. Following cleaning, data were then imported into R and analyzed within RStudio. A confirmatory factor analysis was conducted using R coding language via the *lavaan* package (Rosseel, 2012). Factor one was fitted with the following items: Arden, Addison, Tori, Zuri, Wynter, Aatiq, Paige, Alex, Chakrit, Yura, Billy, Idris, Casey, Fern and Wan. Factor two was fitted with the following items: Jayden, Sam, Khai, Alva, Olly, Ola, Mel, Eilish, Qi Yu, and Harmeet. Factor three was fitted with the following items: Jesse, Marion, Jody, Cleo, Kerry, Kailea, Ogima, Sasha, and Valery. Please see **Table 2** for a reminder of full items that these names are linked to.

Results

A confirmatory factor analysis was conducted to evaluate whether the items loaded onto the scale as per the three-factor model identified within the results of the exploratory factor analysis (Kyriazos, 2018). One item presented a loading below .30, which was therefore removed (Howard, 2016): 'Kailea emailed the admin team asking about the financial support

services'. All other items presented strong factor loadings above .30 and were thus retained. Please see **Table 4** for a full overview of item loadings.

Drawing again upon CTT, we utilized item reduction analysis (Boateng et al., 2018; Thurstone, 1947) to evaluate items' internal consistency via inter-item and item-total correlations. No items presented low item-total correlation scores and thus all were retained.

Factor one presented strong inter-item correlations predominantly within the excellent (0.5-0.7) range. Four pairs of items presented correlations above the recommended cut-off of 0.8: Alex and Idris ($r=0.87$); Aatiq and Casey ($r=0.85$); Wan and Casey ($r=0.81$); Wan and Fern ($r=0.81$) and were therefore removed. Following this, factor one comprised nine items on the theme of self-disclosing about personal life (e.g., 'Arden posted about their childhood trauma on a student-staff forum'); participants mostly responded to these items with "neither likely nor unlikely" ($M=1.65$, $SD=1.16$).

Factor two presented inter-item correlations predominantly within the good (0.2-0.4) range; one pair of items presented weaker correlations (<0.15 ; Cohen, 1988), but these items did present higher correlations with other items in the factor and were not below the recommended cut-off (<0.10) and so were retained (for a similar process see Bagby et al., 1988 and Gasman et al., 2001). Following this, factor two comprised nine items on the theme of self-disclosing about university life (e.g., 'Jayden emailed their personal tutor to discuss their revision schedule'); participants mostly responded to these items with "neither likely nor unlikely" ($M=2.33$, $SD=1.36$).

Factor three presented inter-item correlations predominantly within the good (0.2-0.4) and excellent (0.5-0.7) ranges. No items presented problematic correlations. Following this, factor three comprised eight items on the theme of self-disclosing about specific health and financial matters (e.g., 'Jesse emailed the admin team about lecture non-attendance due to vomiting and diarrhea'); participants mostly responded to these items with "neither likely nor unlikely" ($M=2.07$, $SD=2.07$). Further descriptive information about the items and factors is presented within **Table 4**.

The overall model fit was adequate to good, $CFI=0.86$, $TLI=0.85$, $SRMR=0.07$, $RMSEA=0.08$, $GFI=0.87$, $\chi^2(402)=811.70$. The overall internal reliability of the OSDEP Scale was excellent ($\alpha=0.95$), with factor one ($\alpha=0.96$), factor two ($\alpha=0.82$), and factor three ($\alpha=0.83$) presenting excellent internal reliability.

Phase Three: Scale Evaluation

As per recommendations by Carlson et al. (2012), we then proceeded to conduct further evaluations to explore the convergent and divergent validity of the scale with a theoretically similar scale. Online self-disclosure scale (Schouten et al., 2007) is a widely used continuous measure for online self-disclosure behaviors with higher mean scores indicating greater self-disclosure (and risk of over-disclosure). As both online self-disclosure scale (Schouten et al., 2007) and the OSDEP Scale have a theoretical focus upon online self-disclosure, it was appropriate to draw upon online self-disclosure scale (Schouten et al., 2007) as a tool for evaluating

Table 4. Following confirmatory factor analysis, a summary of item-total correlations & final item loading scores onto each factor: factor 1: self-disclosing about personal life, factor 2: self-disclosing about university life, factor 3: self-disclosing about specific health & financial matters; higher mean scores indicate a greater likelihood to self-disclose; * $p < .05$, ** $p < .01$, & *** $p < .001$

Item	M (SD)	I-TC r	ILS
Factor one ($\alpha=0.96$)			
Paige emailed their lecturer expressing anger about placing last in a competition.	1.66 (1.45)	0.85***	1.27
Arden posted about their childhood trauma on a student-staff forum.	1.52 (1.46)	0.85***	1.25
Wynter messaged their personal tutor directly with video evidence of their housemates' uncleanliness.	1.57 (1.47)	0.77***	1.18
Chakrit posted their swimming training schedule on a student-staff forum.	1.56 (1.40)	0.82***	1.15
Zuri emailed admin team requesting an interruption upon discovering their romantic partner's infidelity.	1.57 (1.39)	0.81***	1.11
Billy emailed their personal tutor explaining they were too hungover to attend their meeting.	1.55 (1.38)	0.80***	1.10
Tori posted on a student-staff forum and referred to their best friend.	1.85 (1.31)	0.80***	1.01
Addison emailed their personal tutor and referred to their romantic partner.	1.61 (1.30)	0.78***	1.01
Yura emailed their seminar tutor about friendships within the seminar group.	2.12 (1.39)	0.73***	1.00
Factor two ($\alpha=0.84$)			
Ola messaged their seminar tutor directly explaining their late arrival was due to visiting a grandparent.	1.89 (1.26)	0.76***	1.04
Harmeet posted on a student-staff forum asking who was attending a departmental social event.	2.13 (1.28)	0.66***	0.96
Khai posted a question about module attendance on a student-staff forum.	2.17 (1.36)	0.70***	0.90
Eilish messaged their lecturer directly explaining they had to leave early to go volunteering.	2.38 (1.20)	0.58***	0.80
Qi Yu advertised their society on a student-staff forum.	2.14 (1.16)	0.63***	0.79
Jayden emailed their personal tutor to discuss their revision schedule.	2.30 (1.16)	0.57***	0.65
Mel emailed their personal tutor explaining their availability around sports training.	2.51 (1.17)	0.53***	0.60
Olly messaged their seminar tutor directly explaining absence due to a hospital appointment.	2.52 (1.11)	0.40***	0.50
Alva emailed their personal tutor about their ongoing health issues.	2.64 (1.12)	0.32***	0.32
Factor three ($\alpha=0.85$)			
Jody posted a question on the student-staff forum about taking an interruption for health issues.	1.90 (1.37)	0.79***	1.15
Kerry messaged their personal tutor directly copies of scans from a hospital appointment.	1.95 (1.41)	0.73***	1.09
Cleo emailed their lecturer about the advice their therapist had given them.	2.01 (1.31)	0.74***	1.03
Valery posted their top budgeting tips on a student-staff forum.	2.21 (1.26)	0.69***	0.85
Marion messaged their seminar tutor directly explaining their late arrival was due to menstrual cramps.	1.92 (1.38)	0.58***	0.77
Jesse emailed the admin team about lecture non-attendance due to vomiting and diarrhea.	2.02 (1.25)	0.58***	0.70
Sasha emailed their lecturer explaining that they could not afford internet at home.	2.24 (1.34)	0.53***	0.62
Ogima messaged their personal tutor directly explaining that they had not received their student loan.	2.38 (1.28)	0.50***	0.53

Note. I-TC:Item-total correlation & ILS: Item loading score

whether similar theoretical constructs could be identified within the OSDEP Scale, as well as enough differences (divergence) to ensure that the OSDEP Scale is measuring a slightly different construct.

Participants

The sample used to evaluate the OSDEP Scale was the same as that of the confirmatory factor analysis within phase two.

Materials

As per the materials outlined within phase two, participants were invited to complete an online survey via the Qualtrics Platform (Qualtrics, Provo, UT).

Following completion of demographic questions and the OSDEP Scale, participants were then presented within online self-disclosure scale (Schouten et al., 1997).

Online self-disclosure scale is presented in two parts:

- (1) with a focus on disclosing online to a male and
- (2) with a focus on disclosing online to a female.

Participants were presented with both parts in a randomized order. For both parts, participants were presented with the following brief: 'Imagine a [male/female] that you regularly communicate with online. How much do you disclose to this [male/female] about:' followed by seven items: 'your personal life', 'the things you are worried about', 'your secrets', 'being in love', 'sex', 'moments in your life that you

are ashamed of' and 'moments in your life that you feel guilty about'. In response to these items, participants were presented with a 5-point Likert scale ranging from 'I tell nothing about this' (scored as 0) to 'I tell everything about this' (scored as 4); mean scores were calculated with higher scores indicating greater online self-disclosure (higher risk of over-disclosure).

Procedure

Ethical approval was granted by a UK HE institution ethics committee following the ethical review process. British Psychological Society ethical guidelines were also followed throughout the data collection and analysis stage of this project.

Following informed consent, completing the demographics question, and then the OSDEP Scale, online self-disclosure scale (Schouten et al., 2007) was presented. Presenting online self-disclosure scale (Schouten et al., 2007) after the OSDEP Scale was important in mitigating the risk of priming participants, which could have invalidated the OSDEP Scale responses. The presentation of the two parts (male, female) of online self-disclosure scale (Schouten et al., 2007) was randomized to minimize the risk of order effects. After completion, participants were fully debriefed, provided with both author's contact details and given the opportunity to provide their e-mail address for a £10 Amazon Gift card (used as an incentive for participation). Email addresses were

Table 5. An overview of mean & standard deviation scores & bivariate correlations for the OSDEP Scale, online self-disclosure scale & each factor; * $p < .05$, ** $p < .01$, & *** $p < .001$

	M (SD)	1.	2.	3.	4.
1. The OSDEP Scale	1.96 (0.91)				
2. Online self-disclosure scale	1.85 (0.78)	0.62***			
3. Factor one	1.65 (1.16)	0.96***	0.65***		
4. Factor two	2.33 (0.76)	0.86***	0.53***	0.76***	
5. Factor three	1.85 (0.78)	0.92***	0.53***	0.84***	0.77***

immediately exported and stored separately to participant data to ensure anonymity.

Design & analysis

Data were exported from Qualtrics to a .csv file and cleaned in Microsoft Excel. Following cleaning, data were then imported into R and analyzed within RStudio. A paired samples t-test was conducted using R coding language via the *rstatix* (Kassambra, 2023) and *stats* (R Core Team, 2013) packages. Four t-tests were ran:

- (1) the OSDEP Scale overall scores (mean score) and online self-disclosure scores,
- (2) factor one scores and online self-disclosure scores,
- (3) factor two and online self-disclosure scores, and
- (4) factor three and online self-disclosure scores.

Each t-test was ran to explore whether the OSDEP Scale and then each factor presented convergent validity with online self-disclosure scale.

Following these t-tests, a linear regression was conducted using R coding language via the *lme4* (Bates et al., 2015) package. Online self-disclosure scores were entered as the outcome variable with the OSDEP Scale overall scores, factor one scores, factor two scores and factor three scores as predictors. We ran this regression in order to explore whether the OSDEP Scale (and each factor) explained the variance within online self-disclosure; this was used to evaluate both convergent and divergent validity.

Results

Following assumptions checks of which no violations were identified, a paired samples t-test was conducted to evaluate the convergent and divergent validity of OSDEP scale with online self-disclosure scale (Schouten et al., 2007). Overall, a significant difference between the two scales was identified, $t(138)=1.81$, $p=0.040$, highlighting that OSDEP scores significantly differed from online self-disclosure scores. Further, significant differences were identified between factor one and online self-disclosure scores, $t(138)=2.60$, $p<0.010$, factor two and online self-disclosure scores, $t(138)=-7.58$, $p<.001$, and factor three and online self-disclosure scores, $t(138)=3.17$, $p<.010$. These findings suggest that OSDEP scale theoretically diverges from online self-disclosure scale. Bivariate correlations outlined that significant correlations exist between OSDEP scale and online self-disclosure scale; this highlights theoretical convergence with regards to covariance. Please see **Table 5** for an overview of descriptive information and bivariate correlations.

Finally, we conducted a linear regression to evaluate whether OSDEP scores and each factor's scores could explain variance within online self-disclosure scores. The overall

Table 6. A summary of linear regression model including overall OSDEP scale scores & scores for each factor as predictors & online self-disclosure scores as outcome variable; * $p < .05$, ** $p < .01$, & *** $p < .001$

	Estimate (β)	Standard error	t
Intercept	1.02***	0.18	5.55
OSDEP scale	-0.60	0.48	-1.23
Factor one	0.68**	0.22	3.04
Factor two	0.30	0.17	1.76
Factor three	0.09	0.17	0.50

model outlined a significantly predictive relationship, $F(4, 134)=25.50$, $p<.001$, with factor one ($t=3.04$, $p<.010$) explaining 43% of the variance in online self-disclosure scores. These findings highlight convergent validity as it is reasonable for students who are more likely to self-disclose about personal life via online educational platforms to also be more likely to self-disclose online in general. Importantly, these findings highlight divergent validity as the scale overall does not explain the variance in online self-disclosure scores and this suggests that OSDEP scale is indeed measuring a similar but different theoretical construct to online self-disclosure scale (Schouten et al., 2007). Please see **Table 6** for an overview of the linear regression.

DISCUSSION

We aimed to create a measure of HE students' online self-disclosure behaviors within an online educational context. Across three phases comprising four studies (totaling 283 participants) items for the OSDEP Scale were created and an initial validation and evaluation were conducted. the OSDEP Scale in its current form includes 26 items with three factors:

- (1) self-disclosing about personal life,
- (2) self-disclosing about university life, and
- (3) self-disclosing about specific financial and health matters.

An overall mean score captures a students' online self-disclosure behavior when communicating via online educational platforms, with higher scores indicating a greater level of self-disclosure and at risk of over-disclosure. Following theoretical validation, the OSDEP Scale presents theoretical similarity with online self-disclosure in general but enough variation that we can conclude against multicollinearity.

Emerging adulthood (ages 18-24 years) is becoming increasingly recognized as a developmentally sensitive period (Sawyer et al., 2018) and current emerging adults have only ever known a digitally connected reality (Stockdale & Coyne,

2020). We know that emerging adults make up the greatest portion of university students globally (HESA, 2023). Emerging adults may self-disclose more than adults due to generational differences in perceptions of online communication (Waycott et al., 2010).

Drawing upon the tripartite self-disclosure decision model (Ostendorf & Brand, 2022), the nature of online educational platforms (e.g., Moodle, Blackboard, and MS Teams) may enhance online self-disclosure due to their facilitation of student online help-seeking behaviors (Er et al., 2015). Presently, it is difficult to investigate university students' online self-disclosure behaviors, and the potentially associated risks and benefits, as no measure currently exists that addresses the nuances of self-disclosing via online educational platforms.

Importantly, the creation and validation of the OSDEP Scale presents a novel measure that is currently lacking from research. We know that HE students are disclosing online when communicating with staff (Hayes, 2024; Hayes et al., 2024), but until now there was no measure to quantitatively capture this. The OSDEP Scale provides a psychometric tool that can be used within pedagogical and educational research to further understand how HE students communicate online with staff and to what extent this may be associated with a plethora of outcomes. For example, we know that student-staff communication is associated with improved student engagement (Bovill, 2019; Flint & Millard, 2018), attainment (Mercer-Mapstone et al., 2017), wellbeing (Hill et al., 2021) and access to services (Roberts & Dunworth, 2012); the OSDEP Scale can be used to explore whether these relationships exist within an online space. When we consider the continued digitalization of HE experience it is important that a tool can be used to adequately investigate this. The OSDEP Scale provides such a tool.

Findings derived from using the OSDEP Scale can inform HE practitioners on how to support students' online communication. For example, we know that HE institutions develop and implement netiquette policies (Clouder et al., 2011; Morley, 2012), which could be better strengthened following an understanding of students' online self-disclosure behaviors.

Further, guidance or workshops could be administered for students to support them in how to communicate online with staff, which in turn could benefit their communication within the workplace. Importantly, the OSDEP Scale provides a tool that can be practically implemented within student support and skill development.

Limitations & Future Directions

Although novel and timely within an ever-evolving digital world, this research outlines the first steps of the OSDEP Scale. An important next step is to validate the OSDEP Scale with larger and more diverse populations. The majority of participants within our overall sample are White studying Social Sciences and based within the UK. Research shows that student's general self-disclosure levels differ across ethnic groups. Lou (2014) found that Chinese students disclose more on social media sites compared to American students.

Additionally, research has found that self-disclosure behaviors differ in British and American universities (Jourard, 1961). Although this research considers general self-disclosure and not self-disclosure via online educational platforms, it gives us an insight on how demographics may impact self-disclosure in students. It would therefore be useful for future research to collect a more culturally and ethnically diverse sample of HE students to validate the OSDEP Scale with. As well as diversifying the sample, this would also be useful for exploring whether HE students' online disclosure behaviors are in fact homogenous or not. Another useful next step for the validation of the OSDEP Scale would be to explore HE students' online disclosure behaviors over a period of time. Previous research has shown that teacher online self-disclosure can increase student-staff relationship strength (Khan & Rafi, 2020; Song et al., 2016), which in turn may lead to more self-disclosure in the student (Jebbour & Mouaid, 2019).

This shows that student online self-disclosure may fluctuate depending on how strong the relationship with a staff member is. It would thus be useful to explore, where students' the OSDEP Scale scores remain consistent over time or whether they in fact change.

Utilizing the OSDEP Scale, future research should also explore the precedents and antecedents of students' online self-disclosure behaviors. For example, within adolescent samples we know that depression can predict greater (and more negative) online self-disclosure (Michikyan, 2020). Equally, we also know that online self-disclosure, particularly, where an individual misjudges the audience and over-discloses, can predict poorer mental health (such as depression; Weidman et al., 2012). We do not know, however, whether these associations also exist within online educational contexts. The potential implications of such associations upon students' engagement and attainment at university, such as dropping out or failing, are severe and so future research should explore this further.

CONCLUSIONS

HE students are increasingly using the online environment to communicate with staff. Having only ever known a digitally connected reality, HE students (predominantly emerging adults) may self-disclose differently online compared to staff. We know that the way in which we self-disclose depends on the nature of the environment. Yet, measures of online self-disclosure remain very broad and do not adequately consider the nature of different online environments. This research sought to create and validate a psychometric tool that can be used to measure online self-disclosure behaviors of HE students specifically via online educational platforms. Through three phases, four studies were conducted.

Our findings present the OSDEP Scale, a 26-item scale that provides a measure for HE students' online self-disclosure behaviors when communicating via online educational platforms. Importantly, the OSDEP Scale can be used within pedagogical and educational research to further explore HE students' online communication behaviors with potential

impacts upon their engagement and attainment, as well as their mental health and wellbeing.

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Declaration of interest: The authors declare that they have no competing interests.

Availability of data and materials: All data generated or analyzed during this study are available for sharing when appropriate request is directed to the corresponding author.

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APPENDIX A

Overview of Initial Item Development of Online Self-Disclosure via Educational Platforms

1. Jayden emailed their personal tutor to discuss their revision schedule.
2. Sam messaged their lecturer directly to ask a question about their module.
3. Khai posted a question about module attendance on a student-staff forum.
4. Jesse emailed the admin team about lecture non-attendance due to vomiting and diarrhea.
5. Marion messaged their seminar tutor directly explaining their late arrival was due to menstrual cramps.
6. Meng Yao posted on a student-staff forum about their inability to study due to noisy neighbors.
7. Alva emailed their personal tutor about their ongoing health issues.
8. Olly messaged their seminar tutor directly explaining absence due to a hospital appointment.
9. Jody posted a question on the student-staff forum about taking an interruption for health issues.
10. Cleo emailed their lecturer about the advice their therapist had given them.
11. Kerry messaged their personal tutor directly copies of scans from a hospital appointment.
12. Arden posted about their childhood trauma on a student-staff forum.
13. Addison emailed their personal tutor and referred to their romantic partner.
14. Ola messaged their seminar tutor directly explaining their late arrival was due to visiting a grandparent.
15. Tori posted on a student-staff forum and referred to their best friend.
16. Zuri emailed the admin team requesting an interruption upon discovering their romantic partner's infidelity.
17. Wynter messaged their personal tutor directly with video evidence of their housemates' uncleanliness.
18. Aatiq posted on a student-staff forum about an argument they had with a friend.
19. Mel emailed their personal tutor explaining their availability around sports training.
20. Eilish messaged their lecturer directly explaining they had to leave early to go volunteering.
21. Qi Yu advertised their society on a student-staff forum.
22. Paige emailed their lecturer expressing anger about placing last in a competition.
23. Alex sent their personal tutor a video of them at dance practice.
24. Chakrit posted their swimming training schedule on a student-staff forum.
25. Yura emailed their seminar tutor about friendships within the seminar group.
26. Neo messaged their personal tutor directly asking how to book social events online.
27. Harmeet posted on a student-staff forum asking who was attending a departmental social event.
28. Billy emailed their personal tutor explaining they were too hungover to attend their meeting.
29. Idris messaged their lecturer directly about an argument they were involved with on social media.
30. Casey advertised a house party on a student-staff forum.
31. Kailea emailed the admin team asking about the financial support services.
32. Ogima messaged their personal tutor directly explaining that they had not received their student loan.
33. Valery posted their top budgeting tips on a student-staff forum.
34. Sasha emailed their lecturer explaining that they could not afford the Internet at home.
35. Fern messaged their personal tutor directly informing them of their current bank balance.
36. Wan posted on a student-staff forum about receiving a large inheritance.
37. Chloe emailed their personal tutor asking for money.
38. Qaetun direct messaged their personal tutor revealing their love interests.
39. Mimi emailed the admin team asking for health advice.
40. Mary-Kate posted on a student-staff forum about their favorite television program.
41. Lyle posted on a student-staff forum about their favorite band.

APPENDIX B

Overview of First Draft of Online Self-Disclosure via Educational Platforms Items: Responses Measured on a Likert Scale Ranging from 'Very Unlikely' to 'Very Likely'

1. Jayden emailed their personal tutor to discuss their revision schedule.
2. Sam messaged their lecturer directly to ask a question about their module.
3. Khai posted a question about module attendance on a student-staff forum.
4. Jesse emailed the admin team about lecture non-attendance due to vomiting and diarrhea.
5. Marion messaged their seminar tutor directly explaining their late arrival was due to menstrual cramps.
6. Meng Yao posted on a student-staff forum about their inability to study due to noisy neighbors.
7. Alva emailed their personal tutor about their ongoing health issues.
8. Olly messaged their seminar tutor directly explaining absence due to a hospital appointment.
9. Jody posted a question on the student-staff forum about taking an interruption for health issues.
10. Cleo emailed their lecturer about the advice their therapist had given them.
11. Kerry messaged their personal tutor directly copies of scans from a hospital appointment.
12. Arden posted about their childhood trauma on a student-staff forum.
13. Addison emailed their personal tutor and referred to their romantic partner.
14. Ola messaged their seminar tutor directly explaining their late arrival was due to visiting a grandparent.
15. Tori posted on a student-staff forum and referred to their best friend.
16. Zuri emailed the admin team requesting an interruption upon discovering their romantic partner's infidelity.
17. Wynter messaged their personal tutor directly with video evidence of their housemates' uncleanliness.
18. Aatiq posted on a student-staff forum about an argument they had with a friend.
19. Mel emailed their personal tutor explaining their availability around sports training.
20. Eilish messaged their lecturer directly explaining they had to leave early to go volunteering.
21. Qi Yu advertised their society on a student-staff forum.
22. Paige emailed their lecturer expressing anger about placing last in a competition.
23. Alex sent their personal tutor a video of them at dance practice.
24. Chakrit posted their swimming training schedule on a student-staff forum.
25. Yura emailed their seminar tutor about friendships within the seminar group.
26. Neo messaged their personal tutor directly asking how to book social events online.
27. Harmeet posted on a student-staff forum asking who was attending a departmental social event.
28. Billy emailed their personal tutor explaining they were too hungover to attend their meeting.
29. Idris messaged their lecturer directly about an argument they were involved with on social media.
30. Casey advertised a house party on a student-staff forum.
31. Kailea emailed the admin team asking about the financial support services.
32. Ogima messaged their personal tutor directly explaining that they had not received their student loan.
33. Valery posted their top budgeting tips on a student-staff forum.
34. Sasha emailed their lecturer explaining that they could not afford the Internet at home.
35. Fern messaged their personal tutor directly informing them of their current bank balance.
36. Wan posted on a student-staff forum about receiving a large inheritance.

APPENDIX C

Overview of Final Draft of Online Self-Disclosure via Educational Platforms Items: Responses Measured on a Likert Scale Ranging from 'Very Unlikely' to 'Very Likely'

1. Chakrit posted their swimming training schedule on a student-staff forum.
2. Arden posted about their childhood trauma on a student-staff forum.
3. Wynter messaged their personal tutor directly with video evidence of their housemates' uncleanliness.
4. Yura emailed their seminar tutor about friendships within the seminar group.
5. Paige emailed their lecturer expressing anger about placing last in a competition.
6. Billy emailed their personal tutor explaining they were too hungover to attend their meeting.
7. Tori posted on a student-staff forum and referred to their best friend.
8. Addison emailed their personal tutor and referred to their romantic partner.
9. Zuri emailed the admin team requesting an interruption upon discovering their romantic partner's infidelity.
10. Eilish messaged their lecturer directly explaining they had to leave early to go volunteering.
11. Mel emailed their personal tutor explaining their availability around sports training.
12. Olly messaged their seminar tutor directly explaining absence due to a hospital appointment.
13. Qi Yu advertised their society on a student-staff forum.
14. Harmeet posted on a student-staff forum asking who was attending a departmental social event.
15. Jayden emailed their personal tutor to discuss their revision schedule.
16. Alva emailed their personal tutor about their ongoing health issues.
17. Ola messaged their seminar tutor directly explaining their late arrival was due to visiting a grandparent.
18. Khai posted a question about module attendance on a student-staff forum.
19. Jesse emailed the admin team about lecture non-attendance due to vomiting and diarrhea.
20. Marion messaged their seminar tutor directly explaining their late arrival was due to menstrual cramps.
21. Jody posted a question on the student-staff forum about taking an interruption for health issues.
22. Cleo emailed their lecturer about the advice their therapist had given them.
23. Kerry messaged their personal tutor directly copies of scans from a hospital appointment.
24. Ogima messaged their personal tutor directly explaining that they had not received their student loan.
25. Sasha emailed their lecturer explaining that they could not afford the Internet at home.
26. Valery posted their top budgeting tips on a student-staff forum.