

Why am I so lonely: Exploring factors affecting loneliness among LSE students

Abstract

This paper examines whether students at LSE experience loneliness and if so, why. So far the literature on loneliness has confirmed its significant prevalence amongst university students. A combination of methods incorporating both quantitative surveys and qualitative interviews were chosen. The survey investigated 120 students' level of loneliness at the LSE and examined which factors may have increased or decreased their loneliness. A section of the study investigated personality to control for these traits by finding out whether participants were either neurotic or not and either introvert or extrovert. There were two sets of semi-structured interviews carried out: the first set of interviews were done to find out whether students at LSE experienced loneliness and the second set of interviews conducted with 5 students at LSE were designed to give us more qualitative data on why exactly they may have experienced loneliness and any possible solutions. Our hypotheses were that 10 different factors affect loneliness levels. Our regression showed that of those, only interacting with friends in lectures and attending at least one student society per week reduced loneliness.

Key words: Loneliness, University students, LSE, Interaction, Friendship

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Introduction

In 2018, Tracey Crouch was appointed by Prime Minister Theresa May to become the first ever “Minister for Loneliness”, which in itself indicates the increasing prevalence of loneliness within society. This paper specifically focuses on the levels of loneliness experienced by LSE students. By reviewing the relevant literature a scale was developed that would effectively measure loneliness. Crucially, for this project it was important to justify why loneliness is such a huge problem. After providing these reasons in the literature review, this paper uses the data collected to back up claims that LSE as an institution needs to do more to combat loneliness amongst its student population by highlighting the key factors that contribute to student loneliness. Hence, the purpose of this study is to identify the most significant determinants of loneliness amongst LSE students and to provide some potential solutions. In doing this, we assess whether personality either increases or decreases loneliness levels. The research questions that shaped the pathway for this research were as follows:

- What factors affect student loneliness at LSE?
- Of the factors identified, which are the most significant?

Literature Review

The definition of loneliness

Loneliness vs Mere Isolation

Loneliness is defined as the “deficiency of social contact compared to what is desired” (Kupshik et al. 2008), which is not to be confused with the desire for company or depression or grief (Weiss 1973). It is also distinct from mere social isolation as one may not necessarily view this to be a negative state of being (Russell et al., 1984). Thus we can neither measure one’s loneliness by the number of friends one has, nor by the number of hours one spends with them, nor by the content of one’s conversations; loneliness in that sense is a truly subjective measure. This is what is captured in the word “desired”. Furthermore, loneliness seems best described on a continuum rather than via a lonely or not lonely dichotomy.

Social Loneliness vs Emotional Loneliness

Weiss (1973) distinguishes two main aspects of loneliness which do not necessarily interact: emotional loneliness and social loneliness. Emotional loneliness is a lack of “close, intimate attachment to another person”, most likely to be experienced by someone who is out of a dating relationship, for instance. Social loneliness is the lack of a group of people with the same interests who share activities (Russell et al., 1984). Accordingly, one can lack a close intimate relationship but still have many friends. Empirically, social and emotional loneliness are largely independent of each other. Our study does not consider feelings of nurturance, reassurance of worth, reliable alliance and guidance, as is distinguished by Weiss (1974), since these are not related to the subject of belonging¹.

The Extent of Loneliness Found Amongst University Students

A global report conducted by Soxedo (2017), highlights 46 percent of UK students admit to experiencing loneliness during their time at university, compared to 32 per cent globally. Of those who did so in the UK, 37 per cent considered dropping out. The literature here is critical for our thesis, as much of the current research on loneliness tends to focus on the older population, indeed, an AXA poll found that 18-24 year olds are four times as likely to feel lonely “most of the time” in comparison to those aged over 70.

The Impacts of Loneliness on Students

Physical and Mental health

Valtora (2016) concluded that loneliness increases the risk of coronary heart disease and stroke. The Amsterdam Longitudinal Study reported that loneliness was a predictor of mortality, with men particularly affected (Holwerda, 2016). Similarly, another study conducted in France also reported excess levels of mortality in individuals who felt lonely (Teguo, 2016). A further meta-analysis which pooled the result of 19 separate studies, suggested that the risk of developing dementia in people with high levels of loneliness was 1.58 times greater than those who are not lonely (Kuiper, 2015). Nyqvist (2016) highlights how chronic loneliness can cause depression amongst university students which can trigger the development of further health problems.

Academic Progress

Students who experience feelings of loneliness are more likely to lack academic motivation and fall behind on their courses, causing study delay or even dropouts as previously mentioned (Eisenburg et al., 2010). The Soxedo (2017) report revealed that study related problems caused 51% of students to deliberate leaving university, while 42% have considered dropping out because of physical or mental health issues. In addition to this, statistics provided by the Higher Education

¹ See Table 1 in appendix

Statistics Agency (HESA) revealed that 1,180 students who experienced mental health problems left university in 2014-15. It represents a 210% increase from 380 in 2009-10.

Existing Research and How Ours Differs

The studies done by Peplau et al. (1980) which used the UCLA scale to measure loneliness in 239 young adults was useful in helping us in the development of a reliable scale that could be used to measure loneliness. This scale is widely established and has high internal consistency which alludes to why it was used in a second study conducted by Ugur Özdemir and Tarik Tuncay (2008), who found amongst 721 students that 60.2% experienced loneliness, measured by using a cut-off value. The above studies thus serve as a useful indicator that loneliness amongst university students is prevalent. Where our research differs is that it goes into more detail: into specific factors which may have an impact on the level of loneliness and our study prioritises which of the factors identified are the most important ones. We also investigated if these factors' impact was different on certain sub-population of our sample.

Methodology

Survey

The survey was distributed digitally via email and social media platforms (e.g. Facebook), targeting LSE students². The first section measured loneliness using "LSE-4", a measure adapted from the ULS-20 measure in the UCLA study (Russell et al., 1978). ULS-20 asks respondents to rate how often they exhibited or experienced a certain emotion given by 20 statements, e.g. "I feel left out" from a 4-point scale of: never, rarely, sometimes or often. The question set derives from reports of people concerning their experiences of loneliness.

We used an online survey with 20 additional questions, a total of 40 questions might have negatively affected response rates. Therefore, we limited our measure of loneliness to a subset of four questions in ULS-20, which has been widely done in the literature before. As discussed in the introduction, there is a difference between emotional and social loneliness which do not necessarily overlap. Therefore, we selected the four questions which measure the common core experience of both social and emotional loneliness because their correlation coefficients with these two kinds of loneliness is equal. This is established in Russell et al. (1984)³. Our questions may have have a correlation of around $r=0.82$ with the full ULS-20 scale. This is the correlation ($p<0.001$) of a 3-point scale with ULS-20 (Hughes et al. 2004:13), which overlaps with our scale in two questions. One may criticise ULS-20 and subforms because they leave respondents leeway in interpretation, as "Often" might mean more than 60% or more than 90% of the time. However, we think this is in fact a strength of the measure. Different people have different needs for "companionship", "turning" to someone, not being "left out". Therefore, the ULS-20 does not measure loneliness relative to others, but rather absolute loneliness as the respondent perceives it. We assume that this absolute measure has a higher bearing on people's ultimate well-being than relative measures.

² See appendix for online survey questions

³ See Table 2 in appendix

The second section asked about the student's current living situation and lifestyle, e.g. relationship status, type of accommodation, membership to a religious community, number of hours of individual study, social media use, etc to help ascertain which factors are vital reasons behind student loneliness.

The third section asked for the student's own opinion on the extent they believed that the factors identified in the study contributed to their own loneliness.

The fourth section aimed to approximate the respondent's personality type. Review of psychological literature led us to Cheng and Furnham (et al, 2002) who have suggested that neuroticism and extra/introversion may account for up to 47% of the subjective feeling of loneliness. We have understood that the subjective sense of loneliness can only partially be ascribed to the environment (i.e. university) as neurotic and introverted people can be more prone to loneliness.

Interviews

In order to ascertain whether student loneliness was indeed an epidemic at the LSE, we conducted preliminary interviews. Four out of five respondents reported that they found the LSE to be a lonely place and gave several reasons as to why they thought this was so. The qualitative data gained from this informed us on which factors to include in the survey.

During and after the survey phase, we conducted semi-structured interviews in order to gain more qualitative information. This allowed us to ask about specific topics that had come out of our survey in the form of a conversation. Yet, the semi-structured set-up gave us flexibility to ensure that the interviewee was able to navigate the direction of the interview. This was vital in enabling interviewees to delve into their own personal experiences and attitudes without having the restrictions of closed ended questions. Our questions were non-suggestive; for example, we asked "What are the factors to loneliness" instead of asking "Do you think living in halls reduces loneliness?".

Data Analysis

Survey

The mean loneliness score for LSE students was 8.3. Their score is both lower than a study of Finnish 15 to 29 year-olds, and university students in Ankara, Turkey (means of 6.8 and 6.9 respectively). However, these values are not directly comparable because the other studies did not use the exact same scale. The Turkish study uses a ULS-20 score which, as discussed above, probably has a correlation of around 0.82 with LSE-4, and the Finnish study uses a one-point score.⁴ Furthermore, the median loneliness for LSE students was lower than the mean, indicating

⁴ See sources and more descriptive results in Table 3 and Table 4 of appendix

that loneliness levels are skewed toward non-loneliness. However, the vast majority of students surveyed stated that they were suffering loneliness to varying degrees.

Our overall regression model showed that interacting with friends in lectures and participating in Student Union (SU) and Athletics Union (AU) activities were the only significant factors (at the standard 5% significance level) in affecting loneliness. Both had positive coefficients meaning an increase in either would reduce loneliness.

All the other factors proved to be insignificant. However, all the factors together could only explain 42% of the variance in the survey data, thus strongly suggesting there are other significant factors that have not been included on the survey. When including people’s opinions of key factors, the best statistical model of predicting their loneliness scale (by using Backwards Regression on R) was able to explain 53% of the variance, allowing us to reasonably predict loneliness scores.

	Gender	Participate in SU/AU Activities	Undergrad or Postgrad	Friends in Modules	See Friends in Lectures/Classes	Time on Social Media	Time Extra Studying	Social Activities Spend	Hours working in Job	Extravert	Other
Male		.					.				
Female					**			**			Relationship
Undergrad											
Postgrad		*			**			.			
No Religious Community		.			***						
Religious Community				*				.			Neurotic
No Relationship		*			**			*		*	Current Halls & Rel Community
In relationship	*	*			*			*			
Not Currently in Halls		.	.		*	.					
Currently in Halls					**	.	.	*	*	*	
Never been in Halls		.			*	.	.			*	
Have been in Halls		.			.						
No SU/AU Activities					**	*					
Takes Part in SU/AU Activities					.						
Domestic		*									
EU					*						
International								*	.		

.	10% Significance
*	5% Significance
**	1% Significance

Fig. 1- Significant factors affecting loneliness on certain observed sub-populations

Having divided the data to further examine certain subpopulations, we found that the factors affecting the pairs of sub-populations tended to be different. As seen in Fig. 1, female loneliness was very significantly affected by two factors which was different to the two less significant factors

for male loneliness. This indicates that loneliness factors does not apply generally and are more specific to certain demographics. With Fig. 1 showing the exact factors, some trends appear; the SU/AU Participation and seeing friends in lectures appears to be significant throughout and so agrees with the overall regression model over their importance as factors.



Fig. 2- Factors that are significant in affecting opinion on certain variables related to affect loneliness.

When looking at students' opinions on factors affecting loneliness in Fig. 2, we found that different sub-populations of people have different expectations of what reduces loneliness. Additionally, an overall trend exists of the perception of living in halls and being in relationships as being viewed as having the most effect as a factor on loneliness and social expenditure having none.

When the result from the overall regression model is taken in to account, we see that different sub-populations' opinions have no relation to the factors that are actually significant in affecting loneliness, since SU/AU participation is seen by few to have an effect on loneliness despite being the only overall factor people gave opinions on that actually was significant in affecting loneliness. This is seen in Fig.2 by SU/AU Participation only appearing to be significant twice, whereas three other factors are significant by at least the same amount of times.

Interviews

The interview⁵ sample consisted of 5 LSE students sampled from our friends and acquaintances. Two of them were affiliated with the Mathematics Department, the others were each from a different department.

Results:

1. Respondents think that loneliness level depends on one's personality although the external environment also plays a role as well to a lesser extent.
2. Events during the first few months of student experience (i.e. freshers) fail to accommodate students who do not enjoy loud, crowded social gatherings. This was the reason why two interviewees, who identified themselves as rather introverted, stated that living in halls has made them even more lonely. Therefore, it is difficult for people who don't drink alcohol and people who are do not enjoy loud social events to find friends in the beginning of the first year.
3. Difficult for home students to make friends. The off campus mentor scheme is ineffective.
4. All of them have someone to turn to when they need help.
5. All but one mentioned that society activities could reduce loneliness.
6. One interviewee mentioned that for introverts, sharing a room in halls should reduce loneliness, as opposed to living in a single room. Another stated that even though it gives one a chance to socialise, it also interferes with one's need for private space and may deprive one of the sense of comfort and security stemming from such privacy.
7. Caring for a child can reduce loneliness. One interviewee mentioned that her LSE-4 score was high (9/12) partly because she worked as a nurse. She took care of a girl who she thinks of "like a sister". This agrees with Weiss' (1974) claim that nurturance reduces loneliness .
8. They all made friends, using different methods. Some of them were expected by us, such as making friends in students halls, during lectures, through freshers' events. However, one respondent had used quite surprising methods; he found some of his close friends on LinkedIn and Student Room.

Participants' suggestions to reducing student loneliness:

1. More department activities and also LSE-wide activities to encourage inter-departmental mixing.
2. More social activities for people who do not enjoy crowded social gatherings and for people who are non-alcoholic. One person suggested more social spaces in the library to give very academically inclined students a chance to socialise while having a break.

⁵ See appendix for interview questions

3. Creation of a central social hub in the LSE.
4. The development of a shared ethos by the LSE to facilitate the creation of a community spirit.

Limitations

Due to time constraints we were unable to conduct interviews with experts and employees who may be involved with students suffering from loneliness at the LSE. As LSE Professor Paul Dolan specialises within behavioural sciences and has written various papers on the subject of happiness, it would have been useful to interview him in order to gauge the contributions academia has made to the subject of loneliness and whether there are any potential dimensions that could be added to our research.

Our research fails to consider the institutional perspectives of the LSE on this topic and so it would have been useful to have interviewed certain departments that are concerned with this subject area to some extent. The LSE counselling services are involved with helping students to manage their loneliness and so may be able to provide a unique insight on the determinants for this and what LSE, as an institution, can do to mitigate this. We asked them for an interview, however they were not available within our time constraints. Additionally, interviewing the LSE Faith Centre could reveal how belonging to a religious community as well as engaging in solitary modes of worship might alleviate loneliness.

Whilst conducting our surveys, one respondent informed us that our research failed to consider students who have families they are responsible for. Having to look after children whilst simultaneously juggling with studying will, of course, impact on how many social events one can attend and so it is important to ensure that this demographic is not ignored.

Furthermore, from a statistical perspective, while we examined different sub-populations, we did not examine the interaction between these sub-populations (e.g. Sub-population of females who are part of a religious community). In order to make future results more accurate and reliable, a new method, called 'objective loneliness measure' has been proposed in the 'Further Research' section.

Conflicts existed between the quantitative and qualitative data gained, meaning that the conclusions that could be drawn weren't necessarily coherent. One reason for this may be due to the inadequate interviewee sample size used. With more time, these differences should be explored further.

We were also unable to tease out specific other variables that may have an effect on loneliness, such as having a bar for those who live in student accommodation. We did not test this in our survey because any result would not be indicative; there is only one LSE hall with a bar (Bankside), and therefore only qualitative data could disentangle the effect of Bankside as such from the effect of its bar.

Conclusion

Overall we found among all the factors we tested that only friends in lectures and participating in Student Union (SU) and Athletics Union (AU) activities were significant factors to loneliness. Furthermore, individual sub-populations did not share the same factors which they perceived as affecting their loneliness levels, most notably there were large disparities between gender as well as living in halls as being identified as the most significant contributing factors. Most of these findings were different from both our expectations and previous research paper findings at other universities. This would provide an ideal basis for further research, especially to discover whether this is due to the age of previous research or if LSE is different as an institution to previously analysed universities or a combination of both.

Following our finding that different factors matter to different sub-populations (see Fig. 1), we would suggest that attempts to reduce loneliness should differentiate between these populations. Furthermore, since we found that opinions of what factors affect loneliness do not relate to the actual significant factors, raising awareness of these actually significant factors should help since it will enable those who are lonely to better help themselves. Practically, this would help LSE and any other universities that may be in a similar position better understand and reduce loneliness levels amongst students.

The contribution of our findings to the scholarly debate are unusual in the sense that we had expected to find LSE students to experience loneliness. However, once we got to the crux of the results, our findings seem more plausible than the existing research, where the UCLA and the Turkish University study conducted findings of loneliness the survey was constrained to simple questions related to loneliness. This is where our research contributes to the literature, due to its unique and original nature as it takes a more integrated approach assessing sub-populations, as well as controlling for key personality traits. Thus, our research within a limited time frame has been able to look at specific individual level factors that neither of these studies explored.

Areas for Further Research

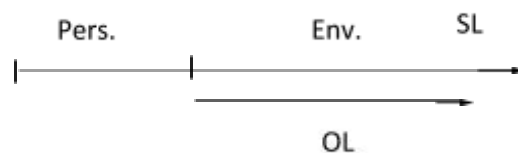
It would be insightful to compare student loneliness at other UK universities to further build a comparative picture of differences in student experiences between higher education institutions. The results would be able to gauge whether LSE is lonelier than other universities, given its image as having the lowest student satisfaction scores in the UK. Likewise, comparisons to universities outside London could test if living in London contributes to loneliness.

Interviewing students with families will capture a generally ignored part of the student population and will enable us to discern how leading a non-conventional student lifestyle can impact one's interactions and behaviours.

Once the main factors that contribute to student loneliness have been identified, the natural progression of the research will be to delve in to the solutions that have been given by the interviewees and identify additional solutions in order to help combat this issue, which will, of course, increase the practical utility of this research.

Analysis of the data obtained from the survey revealed that a more detailed, precise model of the influence of personality on the sense of loneliness is necessary. The 'Objective Loneliness' method is based on the assumption that up to 50% of the subjective sense of loneliness (SL, measured using LSE-4 (as described above)) stems from personality traits which result with being more prone to loneliness (Cheng et al., 2002). When measuring the influence of the environment (i.e. university) on subjective sense of loneliness only the loneliness resulting from environmental factors (i.e. halls, SU activities) should be taken into account, and not the proportion resulting from a personality type⁶.

Cheng and Furnham show that nearly 50% of the subjective loneliness can stem from two main personality types: neuroticism and introversion.



Objective Loneliness shows how the person would feel had s/he been neutral (not influenced by one's personality). It is given by a formula which transforms subjective loneliness (SL) into objective loneliness (OL) via a personality coefficient (Pc) which is a sum of neuroticism and extraversion coefficients.

$$SL + Pc/2 = OL$$

Bibliography

- American Educational Research Association., American Psychological Association., National Council on Measurement in Education., & Joint Committee on Standards for

⁶ Due to space constraints an elaboration on the Objective Loneliness Method was placed in the appendix.

Educational and Psychological Testing (U.S.). (2014). *Standards for educational and psychological testing*.

- Cheng H., Furnham A. (2002). Personality, peer relations, and self-confidence as predictors of happiness and loneliness. *Journal of Adolescence*, 25, pp. 327-339.
- Digitalissue.co.uk. (2018). *2017 The Sodexo International University Lifestyle Survey*. [online] Available at: http://www.digitalissue.co.uk/Publishing/sodexo/uk/uls2107_uk.html#p=1 [Accessed 7 Jun. 2018].
- Domino G., & Domino M.L. (2006). *Psychological Testing: An Introduction*. (2nd Ed.). Cambridge: Cambridge University Press
- Hays, R.D. & Dimatteo, M.R., 1987. A Short-Form Measure of Loneliness. *Journal of Personality Assessment*, 51(1), pp.69–81.
- Holwerda, T. J., van Tilburg, T. G., Deeg, D. J., Schutter, N., Van, R., Dekker, J., . . . Schoevers, R. A. 2016. Impact of loneliness and depression on mortality: results from the Longitudinal Ageing Study Amsterdam. *Br J Psychiatry*, 209, 127-34.
- Hughes, M. E., Waite, L. J., Hawkey, L. C., & Cacioppo, J. T. (2004). A Short Scale for Measuring Loneliness in Large Surveys: Results From Two Population-Based Studies. *Research on Aging*, 26(6), 655–672.
- Hunt, J., Eisenberg, D. (2010). Mental health problems and help-seeking behavior among college students. *Journal of Adolescent Health*, 46, 3-10.
- Jin, B., 2013. How lonely people use and perceive Facebook. *Computers in Human Behavior*, 29(6), pp.2463–2470.
- John, O.P., & Benet-Martinez, V. (2000). Measurement: Reliability, Construct Validation, and Scale Construction. In Reis, H.T., & Judd, C.M. (Eds.). *Handbook of Research Methods in Social and Personality Psychology*, pp 339-370. Cambridge, UK: Cambridge University Press
- KUPSHIK, G. (2016). *LONELINESS, STRESS AND WELL-BEING*. [S.I.]: ROUTLEDGE.
- Kuiper, J. S., Zuidersma, M., Oude Voshaar, R. C., Zuidema, S. U., van den Heuvel, E. R., Stolk, R. P. & Smidt, N. 2015. Social relationships and risk of dementia: A systematic review and meta-analysis of longitudinal cohort studies. *Ageing Res Rev*, 22, 39-57
- Marsh, S. (2018). *Number of university dropouts due to mental health problems trebles*. [online] the Guardian. Available at: <https://www.theguardian.com/society/2017/may/23/number-university-dropouts-due-to-mental-health-problems-trebles> [Accessed 7 Jun. 2018].

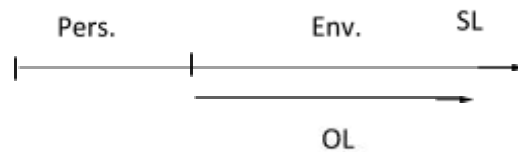
- Matthews, T., Danese, A., Caspi, A., Fisher, H., Goldman-Mellor, S., Kopa, A., . . . Arseneault, L. (2018). Lonely young adults in modern Britain: Findings from an epidemiological cohort study. *Psychological Medicine*, 1-10.
doi:10.1017/S0033291718000788
- Neto, F. (2014). Psychometric analysis of the short-form UCLA Loneliness Scale (ULS-6) in older adults. *European Journal of Ageing*, 11(4), 313–319.
<http://doi.org/10.1007/s10433-014-0312-1>
- Nyqvist, F., Victor, C. R., Forsman, A. K. & Cattan, M. 2016. The association between social capital and loneliness in different age groups: a population-based study in Western Finland. *BMC Public Health*, 16, 542.
- Özdemir, U. & Tuncay, T., 2008. Correlates of loneliness among university students. *Child and Adolescent Psychiatry and Mental Health*, 2(1), pp.
- Pavot, W., Diener, E. & Butcher, James N., 1993. Review of the Satisfaction With Life Scale. *Psychological Assessment*, 5(2), pp.164–172.
- Russell et al 1984: *Journal of Personality and Social Psychology* 1984, Vol. 46, No. 6, 1313-1321. Social and Emotional Loneliness: An Examination of Weiss's Typology of Loneliness Dan Russell, Carolyn E. Cutrona, Jayne Rose, and Karen Yurko; College of Medicine, University of Iowa
- Russell, Dan, Letitia Anne Peplau, and Mary Lund Ferguson. "Developing a Measure of Loneliness." *Journal of Personality Assessment* 42, no. 3 (1978): 290-94.
- Soh, Nerissa; Burns, Fiona; Shackel, Rita; Robinson, Bruce; Robertson, Michael; and Walter, Garry (2015) "Law Student Mental Health Literacy and Distress: Finances, Accommodation and Travel Time," *Legal Education Review*: Vol. 25 : Iss. 1 , Article 3. Available at: <https://epublications.bond.edu.au/ler/vol25/iss1/3>
- Tabue Teguo, M., Simo-Tabue, N., Stoykova, R., Meillon, C., Cogne, M., Amieva, H. & Dartigues, J. F. 2016. Feelings of Loneliness and Living Alone as Predictors of Mortality in the Elderly: The PAQUID Study. *Psychosom Med*, 78, 904-909.
- Valtorta, N. K., Kanaan, M., Gilbody, S., Ronzi, S. & Hanratty, B. 2016. Loneliness and social isolation as risk factors for coronary heart disease and stroke: systematic review and meta-analysis of longitudinal observational studies. *Heart*, 102, 1009-16.
- Walker, P. (2018). *May appoints minister to tackle loneliness issues raised by Jo Cox*. [online] the Guardian. Available at: <https://www.theguardian.com/society/2018/jan/16/may-appoints-minister-tackle-loneliness-issues-raised-jo-cox> [Accessed 7 Jun. 2018].

- Weiss, R. S. (1973). *Loneliness: The experience of emotional and social isolation*. Cambridge, MA: MIT Press.
- Weiss, R. S. (1974). The provisions of social relationships. In Z. Rubin (Ed.), *Doing unto others* (pp. 17-26). Englewood Cliffs, NJ: Prentice-Hall.
- Yildiz, M. and Duy, B. (2018). *Adaptation of the Short-form of the UCLA Loneliness Scale (ULS-8) to Turkish for the Adolescents*. [online] [Dusunenadamdergisi.org](http://www.dusunenadamdergisi.org). Available at: http://www.dusunenadamdergisi.org/ing/DergiPdf/DUSUNEN_ADAM_DERGISI_9f2b5e1d249f4608a0d8d6c2f2022521.pdf [Accessed 7 Jun. 2018]

Appendix

'OBJECTIVE LONELINESS' METHOD

Analysis of the data obtained from the survey revealed that a more detailed, precise model of the influence of personality on the sense of loneliness is necessary. The 'Objective Loneliness' method is based on the assumption that up to 50% of the subjective sense of loneliness (SL, measured using LSE-4 (as described above)) stems from personality traits which result with being more prone to loneliness (Cheng, Furnham (2002)). When measuring the influence of the environment (i.e. university) on subjective sense of loneliness only the loneliness resulting from environmental factors (i.e. halls, SU activities) should be taken into account, and not the proportion resulting from a personality type.



Cheng and Furnham show that nearly 50% of the subjective loneliness can stem from two main personality types: neuroticism and introversion.

Computing personality types

A simplified version of the Eysenck Personality Questionnaire (EPQ) was used to determine personality types of the respondents. Three questions asked about being outgoing, talkative and sociable and measured ones level of extraversion on a scale of 0 to 12 (Es) by summing up the responses. Then, three questions about being easily irritable and tense, as well as having mood swings measured neuroticism on a scale of 0 to 12 (Ns). The sums determined respective coefficients: Extraversion coefficient (Ec) and Neuroticism coefficient (Nc).

	Intro						Neutral						Extra
Es	0	1	2	3	4	5	6	7	8	9	10	11	12
Ec	-6	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6

	Calm						Neutral						Neuro
Ns	0	1	2	3	4	5	6	7	8	9	10	11	12
Nc	+6	+5	+4	+3	+2	+1	0	-1	-2	-3	-4	-5	-6

Extraversion and calmness (expressed by high Es and low Ns values) are related to positive values of Ec and Nc because a person with such personality naturally perceives it's loneliness as not as bothering as a neutral person in the same position would. Conversely, a person identifying as an introvert or a neurotic perceives its situation as worse than it would be for a neutral person in the same situation. Then, a **personality coefficient (Pc)** is devised from the sum of Ec and Nc, which ranges from -12 for a very introverted and neurotic person to +12 for a very calm and extroverted person.

$$Pc = Ec + Nc$$

Because the subjective loneliness (SL, measured by LSE-4) ranges from 0 (for a very lonely person) to 12 (not lonely at all) and the aforementioned paper stated that personality can account for up to 50% of the subjective sense Pc is halved prior to being added to (for EC personality type) or subtracted from (for IN personality type) the subjective

loneliness (SL). The subtraction/addition results with SL being transformed into **Objective Loneliness**, which shows how the person would feel had s/he been neutral (not influenced by one's personality).

$$SL + Pc/2 = OL$$

Advantages of using such an adjusted method of measuring loneliness are broad, but the most important one is mitigating limitations of regression, which due to time constraints would not be able to show how personality type influences individual answers (i.e. concerning the impact of halls on loneliness). By using objective loneliness (loneliness adjusted for personality) controlling against the impact of personality would be more successful.

Example: calculating objective loneliness

E. Sum (Es)	E. Coef. (Ec)	N. Sum (Ns)	N. Coef. (Nc)	Pc (Ec+Nc)	SL	OL	OL/SL
12	6	5	1	7	11	14.5	1.318
6	0	11	-5	-5	8	5.5	0.688
8	2	8	-2	0	10	10	1.000
0	-6	11	-5	-11	9	3.5	0.389
1	-5	7	-1	-6	7	4.0	0.571
4	-2	8	-2	-4	8	6.0	0.750
9	3	9	-3	0	11	11	1.000

The data collected as part of the survey was used later to assess whether the Objective Loneliness method would be useful, by calculating the change that occurs between SL and OL after the method was used. The SL method accounted only for around 5% of personality as a determinant, whereas OL method was able to account for around 20-25%, more closely reflecting the findings of other researchers.

Table 1

Six social provisions (Weiss 1974)		Most often provided by (Russell et al 1984:1314)
1	attachment = A sense of safety and security (a lack of attachment = emotional loneliness)	Spouse or romantic partner
2	social integration = shared interests and concerns (a lack of attachment = social loneliness)	Friends
3	nurturance = feeling responsible for the well-being of another person	Kids
4	reassurance of worth = acknowledgment of a person's skills and abilities	Colleagues
5	reliable alliance = unconditional help	Close family members
6	guidance = advice and assistance from someone trustworthy and	Parents, parental figures, teachers, mentors

	authoritative person	
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Table 2

		Correlation coefficient (Russell et al 1984)	
Is in...	Our question	Social loneliness: “A possible type of loneliness involves not belonging to a group or social network. While this may be a set of friends who engage in social activities together, it can be any group that provides a feeling of belonging based on shared concerns, work or other activities.”	Emotional loneliness: “A possible type of loneliness is the lack of an intense, relatively enduring relationship with one other person. While this relationship is often romantic, it can be any one-to-one relationship that provides feelings of affection and security.”
Hughes et al 2004 ULS-3	“I can find companionship when I want it”	-.2852	-.2810
Hughes et al 2004 ULS-3	”I feel left out”	.4142	.3148
Hughes et al 2004 ULS-3	“I feel in tune with the people around me”	-.2777	-.0976
Hughes et al 2004 ULS-3	“There are people I can turn to”	-.3469	-.3084

Table 3

Sample	Mean	Median	Standard deviation	Cut-off value 2 = mean - standard deviation	% of respondents lonelier than cutoff1 = 6.702,	% of respondents lonelier than cutoff2, using imputation***	range
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					using imputation		
Overall (n=117), LSE-4	8.504	9	2.256	6.249	20.93%	20.93%	2 to 12
LSE students only (n=99), LSE-4	8.313	9	2.347	5.966	28.11%	28.11%	2 to 12
Non-LSE(n=18), LSE-4	9.556	9.5	1.212	8.343	1.91%	1.91%	7 to 12
Özdemir and Tuncay 2008* (n=721)	45.49		10.01	55.5	60.19%	na	20 to 80
above, converted to LSE-4	6.902	na	2.002	4.9	60.19%	na	1.2 to 12
Nyqvist et al. 2016** 15–29 year olds, converted to LSE-4 (n=774)	6.832	4.979	na	na	49.54%	na	0 to 12

Table 3: Descriptive statistics, our sample and comparable literature

na = not available

* uses UCLA-R scale (20=least lonely to 80= most lonely)

** Uses “Do you feel lonely?” with four response alternatives: often, sometimes, seldom, never

*** Imputation was used to determine the share of students under our cutoff-values to account for the fact that a cutoff of e.g. 7.1 would otherwise yield the same share as a cutoff of 8, because LSE-4 is a discrete value. This is evidenced as evidenced by fact that the absolute shares of all respondents under cutoff1=6.702 and cutoff2=6.249 are equal (see Table 4).

Table 4

Cumulative frequencies	All	LSE	Non-LSE
LSE-4 score			
0	0.00%	0.00%	0.00%
1	0.00%	0.00%	0.00%
2	0.85%	1.01%	0.00%
3	4.27%	5.05%	0.00%
4	5.98%	7.07%	0.00%
5	12.82%	15.15%	0.00%
6	19.66%	23.23%	0.00%
7	24.79%	28.28%	5.56%
8	41.88%	46.46%	16.67%
9	62.39%	64.65%	50.00%
10	82.05%	82.83%	77.78%
11	94.87%	94.95%	94.44%
12	100.00%	100.00%	100.00%
under cutoff1=6.702			
imputation	23.26%	26.78%	3.90%
absolute	19.66%	23.23%	0.00%

1 std dev below mean	6.249	5.966	8.343
% respondents under cutoff2			
imputation	20.93%	28.11%	1.91%
absolute	19.66%	15.15%	16.67%

Survey responses, Cumulative frequencies and share of lonely students as measured by two cut-off scores.

Survey Questions

Part 1: Loneliness scale (Never, Rarely, Sometimes, Often)

I feel in tune with the people around me
 I can find companionship when I want it
 I feel left out
 There are people I can turn to

Part 2:

I interact with my friends in lectures and classes. (Never, Rarely, Sometimes, Often)

What is your gender? (Female/Male/Prefer not to say/Other)

As of 2017/18, are you Undergraduate or Postgraduate?

Part 3: Tick where applicable

I am a believer
 I am part of a religious community
 I am in a relationship
 I currently live in a hall of residence
 I have lived in a hall of residence at my current place of study in the past
 During term time, I attend at least one student society event per week (including athletic student societies)
 I am an LSE student
 (none apply)

How many hours do you spend on social media per day on average? _____

How many hours do you spend studying outside of contact hours, per day on average? _____

How much money do you spend on social activities per week? _____

How many hours per week do you work for money, excluding exam season? _____

Part 3

How would the following affect your loneliness? *

	Strongly reduce my loneliness	Moderately reduce my loneliness	Slightly reduce my loneliness	Neutral	Slightly increase my loneliness	Moderately increase my loneliness	Strongly increase my loneliness
Living in halls	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An increase in social media time of one hour per day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attending at least one student society (or athletic student society) event per week	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being in a relationship	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having £80 more of disposable income per week	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Part 4:

	1. Strongly disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree
I am a talkative person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am outgoing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to keep in the background during social occasions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My mood often goes up and down	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I get tense at times	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I get easily irritated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Interview questions

1. On a scale from 0 to 12, how lonely would you say you are as of now? Does that differ from during term time? (time with seminars, lectures and classes in MT and LT)
2. What do you think are the main reasons for feeling as lonely / not lonely as you feel?
3. Why do you think that is?

here we let them respond freely without suggesting anything, in order not to bias our results. if they do not have any idea of the loneliness factors, or if they do not mention the factors we move on to ask about the following until we know about which are relevant:

- (reminder that they do not have to answer) Have you ever experienced depression or anxiety? did you receive the help you needed? How much of your loneliness would say this explains?
- (reminder that they do not have to answer) How would you describe your personality and does it relate your loneliness level (e.g. extrovert = talkative, outgoing, not tend to keep in background; neurotic = mood often goes up and down, gets tense at times, easily irritated)
- Where are you studying?
- What are you studying?
- Do you think LSE/University is a lonely place? Why?
- Are you in University accommodation? If so which one? How many social activities does/did your hall hold? How many people turn up? Do you go? Did/Does it make a difference to loneliness?
- How much of an effect does your department have on loneliness? (How many social activities does your department hold? How many people turn up? Do you go?)
- Where would you turn to if you need to talk to someone?
- Have you ever heard of LSE counselling services?

4. If there is time, ask questions 2 and 3 for the interviewees' friends
5. When you were lonely, did you receive the help you needed. If not, whether they would know who to turn to should they experience it in the future, perhaps? Do you feel that there are people you can turn to at the LSE?
6. How do you think LSE/your university as an institution could decrease the level of loneliness?

Interviews: In order to maintain confidentiality and anonymity we ensured that all interviewees knew the purpose of our interview before they partook in it. Further, consent forms were signed by both parties which highlighted exactly what the interview data would be used for.

Consent Form

Research topic: Why are lonely students lonely?

Supervisor: Dr Daniel James

Researchers: Adam Bhaiyat, Carl Harper, Laura Li, Michal Pyka, Nicolas Feil, Sainka Shah

The interview will take around 20 minutes. We do not anticipate that there are any risks associated with your participation, but you have the right to stop the interview or withdraw from the research at any time without giving a reason.

Thank you for agreeing to be interviewed as part of the above research project. Ethical procedures for academic research undertaken from UK institutions require that interviewees explicitly agree to being interviewed and how the information contained in their interview will be used. Would you therefore read the accompanying information sheet and then sign this form to certify that you approve the following:

- the interview will be recorded and a transcript will be produced, which will be stored for the duration of the research; the transcript will be anonymised so that on the face of it the interviewee cannot be identified
- you may request to access the transcript and be given the opportunity to correct any factual errors
- the transcript of the interview will be analysed by the Researchers (above)
- access to the interview transcript will be limited to the Researchers (above) and academic colleagues and researchers with whom he might collaborate as part of the research process
- any summary interview content, or direct quotations from the interview, that are made available through academic publication or other academic outlets will be anonymized so that you cannot be identified, and care will be taken to ensure that other information in the interview that could identify yourself is not revealed
- a possible recording will be kept only for the duration of the project, and destroyed at the end
- any variation of the conditions above will only occur with your further explicit approval

I agree to be quoted anonymously (without any indication of who you are apart from 'LSE student' or not)

I agree to the recording of the interview

(Initialise only if agree to either; leave blank if you do not agree)

By signing this form, I agree that;

1. I am voluntarily taking part in this project. I understand that I do not have to take part, and I can stop the interview at any time; I can withdraw consent to have my data stored or used at any point
2. The transcribed interview or extracts from it may be used as described above;
3. I have read this consent form fully;
4. I do not expect to receive any benefit or payment for my participation;
5. I can request a copy of the transcript of my interview and may make edits if I feel necessary to ensure the effectiveness of any agreement made about confidentiality;
6. I have been able to ask any questions I might have, and I understand that I am free to contact the researcher with any questions I may have in the future.
7. I agree that the content of the interview may be used in academic papers, on LSE Groups website or in PowerPoint and spoken presentations; in an archive of the project as noted above.

Should one have any queries in relation to the research project, please contact: lseggroups5@gmail.com

Printed Name Interviewee

Interviewee's Signature

Date

Researcher's Signature

Date