

**How Use of Smartphone News Applications relates to Optimism, Life Engagement,  
and Worry**

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## **ABSTRACT**

The aim of this mixed method study was to explore the relationship between mobile phone news application usage and the trait variables of optimism/pessimism, life engagement and worry. Incorporating correlational and cross-sectional hypotheses, an online survey was open to any adults who owned a smartphone. A hundred and thirty-five people responded via social networking sites. There were no significant findings in relation to optimism/pessimism and worry, indicating a lack of synchrony between this type of news exposure and these particular personality features. There was a significant difference on the level of life engagement between 2 groups. The group with mobile phone news apps installed (60% of the sample) had a higher average score of life engagement than the group with no news apps installed. This and other findings in relation to news consumption habits could have interesting implications for research in the areas of news media and individual difference.

## 1. INTRODUCTION

According to a recent Eir survey, 70% of Irish people carry a smart mobile device. Further studies have found Irish people to be the most frequent users of 'mobile internet' in the western world (Kennedy, 2015). With the Internet now an intrinsic part of daily life in the developed world, news and information have never been more readily available. At present, many news organisations employ mobile news alert 'push notifications', alerting people of breaking news or major headlines. Push notifications are messages sent to a smartphone and tied to an installed app (Bathelot, 2013). The use of such notifications is becoming increasingly prevalent. According to a recent study, 72% of people in the US receive news on mobile devices, with 55% of smartphone users receiving news alerts on their phones' screens (Lu & Matsa, 2016).

Essentially, the news is at our fingertips on a rolling basis in the world today. This study aims to explore whether this is having an impact on our affect, mood and well being, specifically optimism/pessimism, engagement with life and worry. Conversely, it is also the aim of this study to investigate the idea that people are individually predisposed to seeking out news and information around the clock, depending on certain personality traits.

This research project will build on established theories in social psychology, in particular looking at worry, purpose in life, optimism and the theory of negativity bias. Recent media research conducted in the area of responses to news consumption will be reviewed and evaluated, along with studies which have investigated the link between smartphone app selection and personality traits.

## 1.1 Variables

### *Life Orientation*

Optimism is a dimension of individual difference that shows the extent to which people hold favourable beliefs and views about their future (Carver & Segerstrom, 2014). In essence, optimists expect good things to happen to them and pessimists expect bad things. It appears that this trait is somewhat stable over time and that there is an epigenetic aspect to the explanation of its variations among individuals. In order to measure such trait variations, the Life Orientation Test was created and subsequently revised by Scheier, Carver and Bridges in 1994. In research which has employed the Life Orientation Test, optimism has been found to predict career goals, career related expectations and psychological adjustment (Patton, Bartrum, Dee & Creed, 2004), (Chang & Sanna, 2001).

In their 2002 study on television news media exposure, Mcnaughton-cassill and Smith found that people tend to believe social issues to be far more problematic in the wider nation than they are in their own communities, suggesting that the media play a role in this so-called 'optimism gap'. They also found that emotions such as depression and anger intensify responses to television news viewing. The researchers emphasise the question of causality. Do people who attend to more news coverage, which is predominantly negative in tone, become more pessimistic about the world or do people who tend to see the world as problematic in general actually pay greater attention to the television news media? They prompt future research to investigate whether traits such as optimism, anxiety and worry are outcomes or factors which moderate attention to media news. The study used only college students and so a wider demographic in future studies would also be beneficial.

### *Life Engagement*

The Life Engagement scale was developed to measure purpose in life, accounting for how much a person engages in activities that are personally valued (Scheier et al., 2006). The authors believed that purpose in life was an important but overlooked predictor of well-being and health outcomes. Their Life Engagement measure was developed from a theoretical framework provided by contemporary models of behavioural self regulation and unlike earlier scales, the focus was on purpose in life as a single construct. According to the authors, such self regulation of behaviour relies on goal adjustment. Valued goals provide a purpose for living and they enable a person to engage with life in a meaningful way (Scheier et al., 2006).

A 2012 study explored the link between social media use for news and an individual's social capital, civic engagement and political participation. The findings reveal a significant and positive relationship among informational use of social media and engagement in civic and political action. The researchers claim that such findings prompt further research in this area to gain better understanding on citizen engagement in today's society (Zuiga & Gil).

In incorporating the Life Engagement Test, it is hoped that an insight will be gained into the relationship between engagement with valued activities and interaction with mobile phone news apps.

### *Worry*

Worry is considered to be the fundamental facet of Generalised Anxiety Disorder (GAD) in DSM IV (Joos, Vansteenwegen, Brunfaut, & Hermans, 2012). It is also strongly related to several other disorders, such as social phobia, panic disorder and obsessive compulsive disorder. The Penn State Worry Questionnaire (Meyer, Miller, Metzger & Borkovec, 1990) was developed by its authors to assess frequency and intensity of worry. It

is a self-report measure that has exhibited reliability in both clinical and non-clinical settings (Joos et al., 2012).

The construct of worry has been explored within research on media and news. A recent study looked at the relationship between media interest in a H1N1 virus outbreak and related worry. The researchers found that media exposure, in particular interest in news about the outbreak, significantly predicted levels of worry. As the data are cross-sectional, causality is not definitive. The researchers conclude by questioning whether it is the media's coverage that stimulates engagement, and consequently, worry, or whether interest and worry lead to greater consumption of news. Such issues of causality and predictability will be explored and evaluated as part of this study.

## **1.2 Theories**

It is widely held that the media today are intent on emphasising negative aspects of the news. A recent study on the sales of three German news magazines found positive correlations between negative cover pages and the magazines' sales (Garz & Rott, 2014). This study suggests that media bias towards negativity is determined by their need to slant content towards the type of news that will bring in more revenues through sales and advertisement. This implication prompts the question of causality. Does such negative news coverage cause the increase in magazine sales or is this focus on negative news driven by consumer demand for negative news items (Garz & Rott, 2014)? Soroka and Adams (2015) may approach this question by pointing out that all humans, even media bosses and journalists, are innately biased towards negative stories and that this may not be a profit driven phenomenon after all. The researchers conducted a psychophysiological experiment which captured viewers' reactions to actual news content. They found support for their hypothesis that negative news elicits quite different reactions from consumers than positive

news. Soroka and Adams (2015) explain this by way of our inherent negativity bias, adding that people naturally devote more cognitive energy to bad things.

Another study echoed this idea that a predisposition towards negative entities exists innately within animals and humans. Rozin and Royzman (2001) believe that there are many factors at play within the theory of negativity bias but suggest that the bias may cause a range of adaptations that modulate the response to strong, negative effects.

A more recent study on media multitasking demonstrated that a negativity bias exists for social media messages. It was found that negative information presented on a second screen draws more attention to itself than similar positive information. These findings are in line with the theory of negativity bias and are salient to the idea that ‘bad news sells’ (Kätsyri et al., 2016).

As this study aims to explore the relationship between the use of mobile phone news applications and personal affect, the principle of negativity dominance may help explain correlations, or lack thereof, between the variables in question.

### **1.3 Literature Review**

In their 2015 study on mobile news consumption, Van Damme, Courtois, Verbrugge, and De Marez found that the majority of news consumers still largely rely on traditional news sources, supplementing with online mobile services at times. On the other hand, they argue that mobile news outlets seem to be increasingly infiltrating the lives of mobile device users who were previously not engaged with news. The researchers emphasise the fact their study shows that being interested in current affairs does not always lead to mobile news use. However, this could be explained by differences in age and does not give sufficient insight into personality traits or states as predictors of mobile news consumption.

Montag et al. (2014) assert that psychology and computer science can come together in the area of *Psychoinformatics*. They used Big Five personality data to explore relationships between personality and behaviour recorded on mobile phones. Their research found that extraversion positively relates to the intensity of mobile phone calls, with this personality trait acting as a significant predictor of total number of outgoing calls in particular.

Employing the Big Five measurement tool, Xu, Frey, Fleisch and Ilic (2016) cite the examples of conscientious people being more likely to adopt leisure mobile apps and introverted individuals tending towards the adoption of mobile game apps to illustrate this point. It is proposed that future research is needed in this area with more diverse and representative samples.

Johnston and Davey (1997) found that self-reported measures of anxious and sad mood were augmented after watching a predominantly negatively valenced news programme. According to results from the Penn State Worry Questionnaire (Meyer et al., 1990) these changes in mood subsequently led to the enhanced catastrophising of personal worries. In particular news items which reflect war, famine and poverty appear to induce viewers to aggravate a range of personal concerns not specifically relevant to the content of the programme itself. Such a finding is in line with mood-congruent theories of worrying and is an important justification for exploring alignment between measurements of personal worry and the consumption of mobile phone news.

Unz, Schwab and Winterhoff-Spurk (2008) explored the question of what subjective feelings viewers experience while watching violent TV news. Using stimulus tapes of news reports and measurement of facial expressions, the researchers found that violence in TV news elicits predominantly negative emotions depending on the type of portrayed violence (n=18). Interestingly, the results showed viewers appearing to react to this negative news with emotions such as anger and contempt (27.2%) , while reactions displaying sadness and

fear (0.6%) occurred much more rarely. Ultimately they propose that emotional processing of violent TV news is dependent on features of media output and viewer traits and characteristics. They emphasise the 'cultivation effect' whereby emotional processing of news may lead to specific worldviews and corresponding behaviour or engagement with life. They encourage future research on emotions in relation to news to focus on the diversity and complexity of human emotions and states rather than simply isolating one aspect of human personality.

In more recent research on Internet news exposure and public attitudes toward crime and justice, a sample of 520 adults living in the US was used (Roche, Pickett & Gertz, 2016). It was shown that online news consumption does not relate to views about crime or justice, or in some cases is actually negatively related to perceived victimisation risk, along with anxieties about crime and support for harsh crime policies. These findings are in contrast to findings in relation to exposure to traditional forms of media. The researchers put forward a variety of explanations for this difference in responses in terms of crime and justice. The Internet news consumer has the option to immediately dig deeper and explore the news story in a broader context, therefore becoming better informed and perhaps less anxious. This of course assumes that users of online news are strongly committed to investigating the background of such news items. This theory does not necessarily ally with today's culture of 'news-on-the-go' via Twitter, Facebook and news app notifications, and may be outdated. An alternative explanation proposes that as people increasingly shift towards online news with higher levels of choice and active engagement being involved, they may be exposed to proportionally less criminal justice content and consequently the impact of such social issues may not be felt. This idea is more feasible. However, in their questioning the researchers did not quantify the intensity of engagement with online news sources, merely asking respondents how many days they had used the Internet to visit news websites. They also did

not find out the type of news items which were attended to by the participants on both traditional and online news platform. Consequently, it is a challenge to wholly verify the study's predictions about emotional responses to stories specifically related to crime and justice. Roche et al. (2016) propose that future studies should explore their prediction that specific traits or beliefs may influence an individual's choice of news websites, their selection of content and their retention of information, thus providing a rationale for the current study.

Another aim of this study is to explore the motivations that lie behind information-seeking behavioural patterns. Shim, Han You, Kyu Lee and Go (2015) claim that those who use their smartphone to access news are likely to have a strong information-seeking motive. In their research they found that mobile news consumers think upon political news as an important news type and infer that mobile informational applications offer the potential to engage in political issues.

Swart, Peters and Broersma (2016) put forward the case for more research to be conducted in the field of perceived news use and the value consumers place on news in today's rapidly changing media landscape. The current study aims to explore use of mobile news apps explicitly in a bid to add to research in more domain specific manner.

#### **1.4 Rationale**

From the research it is clear that there has been a rapid and recent shift in our news consumption habits. The ways in which we receive and assimilate news events (globally, nationally and locally) are dependent on many factors and emotional responses vary accordingly. As aforementioned in the introduction, evidence shows that a majority of smartphone owners across all ages in the US are now using their phone to follow along with breaking news. However one survey also revealed that 57% of phone owners reported feeling 'distracted', while 36% reported feeling 'frustrated' by their phone. Younger smartphone

owners apparently tend to experience a wider range of these emotions (Smith, 2015). With such negative emotions being associated with mobile phone use, it is vitally important that topics such as mobile app selection and engagement with online news are studied in relation to personality traits and outlooks.

As demonstrated in the Literature Review, some research has been conducted on the relationship between the Big Five personality measurement and mobile phone app selections. However, one study has suggested that researchers in the future should consider other factors apart from the Big Five that might predict the use of Smartphone apps. It is also proposed that the link between personality and more specific apps should be examined, rather than looking at general app choices (Lane & Manner, 2012). Hence, there is a clear rationale for isolating news applications alone for this present study and exploring the link between their usage and traits of worry, optimism and life engagement.

In his paper, Peters (2015) talks of how the interactive possibilities of personal news media allow people to interpret the world from a more personal viewpoint. This inevitably leads to a different form of engagement and a “new sense of the present” (Peters, 2015, p.7). Our ability to engage with news wherever we are and at any time places a fresh importance on location and movement when it comes to news consumption. He emphasises that this new form of news consumption is dependent on the context of the individual, their places and spaces. According to Peters, mobile news does not appear to function as an in-depth platform and engagement with news in this form needs to be studied within the context of its integration into the everyday life of the user. Peters concludes by prompting further exploration of the impact this shift in news consumption habits has had and of how people conceive of informational integration as technology continually moves forward. With the use of a scale that attempts to quantify the intensity of engagement with news alerts and their

corresponding articles, this study aims to explore these new “ambient news streams” (Sheller, as cited in Peters p.7, 2015) in a focused and relevant way.

With the arrival and increasing popularity of news apps and their incorporation of push notifications, these points have become ever more pertinent. From questions of what motivates such ongoing information-seeking behaviour to whether certain dispositions are associated with this type of engagement with news, the current study endeavours to shed light on this relevant and rapidly evolving topic in a psychological context.

### **1.5 Hypotheses**

H1: There is a negative relationship between mobile phone news app usage and optimism/pessimism levels.

H2: There is a positive relationship between mobile phone news app usage and engagement with life.

H3: There is a positive relationship between mobile phone news app usage and worry levels.

H4: There is a difference between the two groups on the level of optimism, such that the group without a mobile phone news app is more optimistic and the group with a mobile phone news app is more pessimistic.

H5: There is a difference between the two groups on the level of life engagement, such that the group without a mobile phone news app score lower on life engagement than the group with a mobile phone news app.

H6: There is a difference between the two groups on the level of worry, such that the group without a mobile phone news app scores lower on the worry scale than the group with a mobile phone news app.

## 2. METHODOLOGY

### 2.1 Participants

A convenience sample was used, with an aspect of snowball sampling. Participants were smartphone users who were 18 years of age and older. N = 135 with the gender split consisting of 33.3% male and 66.7% female. Participants were all over 18 years of age, with the 30 to 49 year olds being the largest age group (65.2%). 23.7% were aged 18 to 29 years, while 11.1% of the sample were aged 50 or over. Over half of participants were classified in the professional or managerial/technical status groups (53.3%).

This was an online study whereby digital questionnaires were distributed and shared via Google forms. Respondents were drawn from the general public using platforms such as Facebook, Whatsapp and email. All participants were asked whether they owned a smart mobile phone at the outset. Only respondents who answered yes to this question were permitted to proceed. Demographic variables included on the questionnaire were gender, age and occupational status. The participants then answered questions on smartphone usage and were requested to complete three surveys, with 24 out of 135 opting to answer the qualitative question at the end.

### 2.2 Design

This was a quantitative, questionnaire-based study that was both correlational and cross-sectional, i.e. a mixed design study, with a qualitative dimension, i.e. mixed methods. With respect to the correlational aspect, the predictor variables were levels of life orientation, life engagement and worry, while the criterion variable was level of smartphone news app usage. The hypotheses involving these variables were one-tailed in nature. It was expected that the relationship between the criterion variable and the predictor variables should be such that the stronger the degree of intensity of smartphone news app usage, the higher the levels

of life engagement, worry and pessimism. This one-tailed approach was informed by previous research as outlined in the introduction.

The cross-sectional element of the study was based on the relationship between the dependent variables of life orientation, life engagement and worry, and the independent variable of having a smartphone news app or not. This aspect of the study was between groups and the hypotheses were one-tailed. It was hypothesised that the difference between the two groups would be such that those with a smartphone news app would score lower for optimism and higher for life engagement and worry. At the outset of the online survey form, participants were asked if they had a smartphone or not. If they answered 'no', they were automatically brought to the end of the survey, thus eliminating participants without a phone. The next section of the survey identified if participants had a news application installed on their phone or not. Respondents who did not were instructed to move on to the next section, while those who did have a news app were requested to answer questions on the intensity of their use of such applications. In this way, participants were assigned to two separate groups, those with a news app installed on their phone and those without.

### **2.3 Materials**

The online survey was delivered using Google Forms (see Appendix 1). At the outset of the survey participants were asked to consent to the study and if they owned a smartphone. Demographics were assessed by asking questions on age, gender and employment status and two questions were included to evaluate smartphone news application usage. The section of the survey on personality and affect comprised of three separate measures which totalled to 32 questions. The measures used were the Life Orientation Test-Revised (LOT-R) (Scheier, Carver, and Bridges, 1994), the Life Engagement Test (LET) (Scheier, Wrosch, Baum, Cohem, Martire, Matthews, Schulz, & Zdaniuk, 2006) and the Penn State Worry

Questionnaire (Meyer, Miller, Metzger, 1990). Appendices 2, 3 and 4 consist of copies of these three questionnaires and their corresponding score sheets.

### *The Life Orientation Test-Revised*

This measure was developed by Scheier et al. in 1994 in order to assess individual differences in terms of optimism/pessimism. The authors found the test to have adequate predictive and discriminate validity. There are ten items in this self-report measure where the aim is to evaluate the respondent's dispositional optimism/pessimism. There are 3 positively worded items (Q.1, 4 and 10) e.g., "I'm always optimistic about my future", 3 negatively worded items (Q.3, 7 and 9) e.g., "I rarely count on good things happening to me" (reverse scored), with the rest being fillers. Participants are asked to respond to these statements about themselves by indicating the extent of their agreement using the scale provided. They must select one answer from five options, ranging from 'strongly agree' to 'strongly disagree' and are asked to be honest and to try not to allow one response to influence another. According to Monzani et al. (2014), the LOT-R exhibits one-dimensionality and possesses acceptable concurrent validity in terms of optimism as a continuum. The test is scored by first reverse coding items 3, 7 and 9 and then adding the 6 scores together to get a final total. The total score attained by the individual is interpreted in terms of a single dimension of these variables, with no cut off point for either optimism or pessimism. This final value indicates the respondent's position on this trait scale, with a high score demonstrating a strong degree of optimism and a low score indicating a weak degree of optimism. The maximum score is 24, with the minimum being 0. Cronbach's alpha for the 6 items of the scale was .78 suggesting an acceptable level of internal consistency (Scheier et al., 1994).

### *The Life Engagement Test*

The Life Engagement Test (Scheier et al., 2006) was designed to measure purpose in life in the context of how a person engages in activities that are personally valued. The measure consists of 6 statements, 3 of which are positively worded (Q. 2, 4 and 6) e.g. “I value my activities a lot” and 3 negatively framed (Q.1,3 and 5) e.g. “Most of what I do seems trivial and unimportant to me.” Respondents are asked to select an appropriate personal response to each statement. They are asked to do this by choosing one from a scale of five options, ranging from ‘strongly disagree’ to ‘strongly agree’. The respondents are asked to be as honest as possible and to try not to allow one response influence their responses to other items. They are advised that there are no right or wrong answers. The LET is scored by initially reverse coding Q.1, 3 and 5 and then finding the sum of all six responses. The final score, ranging between a possible 6 and 30, provides an index of an individual’s purpose in life in terms of the extent to which they consider their activities to be valuable and important. The psychometric findings presented by the authors suggest that the test is sound across a range of demographics in terms of internal consistency, reliability and validity. Scheier et al., (2006) observe that the test has been frequently employed by researchers in the fields of behavioural medicine and health psychology to explore the association between this particular individual difference and health outcomes. Cronbach’s alpha was obtained by the authors, ranging between .72 and .87, averaging .80 (Scheier et al., 2006).

### *Penn State Worry Questionnaire*

The Penn State Worry Questionnaire was developed by Meyer et al., (1990) to measure the trait of worry and was born from a factor analysis of a variety of items. The test is made up of 16 statements which relate to everyday worry. The participants are asked to

respond to each item by rating each item on a likert scale of 1 (“not at all typical of me”) to 5 (“very typical of me”). Responses to statements such as “My worries overwhelm me” are scored from 1 to 5 accordingly, while responses to items such as “I find it easy to dismiss worrisome thoughts” are reverse scored. An individual’s total score is attained by adding the scores for each item together. The final score ranges from 16 to 80, with a low number indicating a weak tendency to worry and a high score suggesting a strong tendency to worry. In their research, the authors of this measure found that it correlates predictably with other psychological measures related to worry and not with other more remote constructs. Alongside Cronbach’s alpha ranging from .86 to .93, this suggests that the Penn State Worry Questionnaire possesses high internal consistency and good test-retest reliability (Meyer et al., 1990).

## **2.4 Procedure**

At the outset of this study, a research proposal was submitted and ethical approval was sought from the Dublin Business School Department of Psychology Ethics Committee. The proposal was approved and ethical approval was granted. Participants were attained by sharing information about the study and a link to the survey on online platforms such as Facebook, Whatsapp and through e-mail. Participants were enabled to access the survey in digital form via a link created by Google Forms. It was necessary for the researcher to have an account with Facebook, Google and Whatsapp. Willing participants who did not have an account with any of these social networks were contacted by e-mail, embedding the same Google Forms link into the message. The survey link was shared and sent on by participants within these online social platforms, thus acquiring more respondents. On clicking the survey link, participants were first directed to a cover letter which outlined the aims of the study – to explore the relationship between smartphone news app usage and a selection of specific

personality traits. It was highlighted that participation was voluntary and there was no obligation to take part. The letter also advised that some of the questions would be personal in nature and that contact details for relevant support services were included on the final page of the survey. It was emphasised that participation was anonymous, with responses being stored confidentially on a password-protected secure Gmail server.

The survey began with an obligatory question to confirm the consent of the participant and it was advised that once consent was granted it would not be possible to withdraw from participation in the study. Following this, participants were asked if they owned a smartphone. If they selected 'yes' they proceeded to the next question and if 'no' they were brought to the final 'thank you' page as their responses were not required. The respondents were then asked to confirm their gender, age group and occupational status. The next two questions asked if the respondents had a news application installed on their mobile phone and, if so, whether it was set up so that push notifications came through via the app. If so, the respondents were then asked to select 1 statement out of a choice of 4 that best described their engagement with these alerts, e.g. "I read the news alerts and click through to the full articles on occasion." This was devised in order to evaluate the intensity of user interaction with news app notifications. Respondents who didn't have a news app and/or alerts set up did not have to answer this question and were directed straight to the next section of the survey.

This section on personality and affect comprised of 32 questions encompassing the Life Orientation Test – Revised (Scheier et al., 1994), the Life Engagement Test (Scheier et al., 2006) and the Penn State Worry Questionnaire (Meyer et al., 1990). Participants were asked to respond to a series of statements in accordance with the scales provided. These scales differed depending on the measurement tool being used. Finally, participants were given a space to express any thoughts they had on the subject of the study.

The entire survey took between 5 and 8 minutes to complete. On completion participants pressed the submit button and were presented with a final thank-you page. This page thanked them for their time and confirmed that their responses had been anonymously recorded. Contact information for support services such as [samartians.org](http://samartians.org), [aware.ie](http://aware.ie) and [mentalhealthireland.ie](http://mentalhealthireland.ie) were provided.

### 3. RESULTS

Quantitative analysis was used to evaluate the relationship between mobile phone news app usage and traits of optimism/pessimism, life engagement and worry. Qualitative analysis of responses to the final question about thoughts on the subject in the survey was conducted by thematic analysis (Braun & Clarke, 2006).

#### 3.1 Descriptive Statistics

Descriptive Statistics were run using SPSS software. According to descriptives, 60% of the sample reported that they had a news application installed on their mobile phone, with 40% reporting not having one installed. Furthermore, 52.5% of participants who use a mobile news app have the associated news alerts switched on, while 47.5 % do not. See Figures 1 and 2:

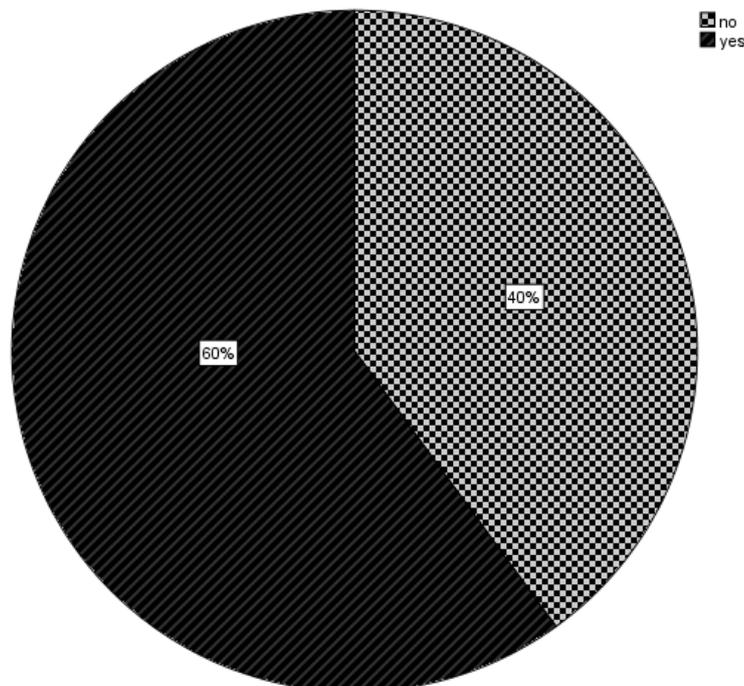


Figure 1: *Pie chart showing percentage of participants with and without news apps installed*

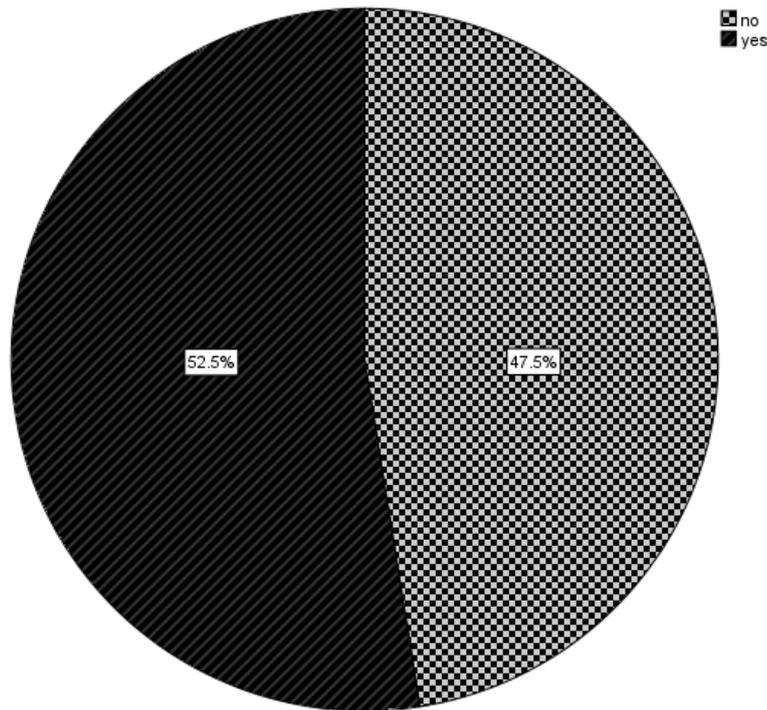


Figure 2: *Pie chart showing percentage of news app users with alerts switched on/off*

Participants with news app alerts activated were asked to report on the intensity of their engagement with these notifications. According to this evaluative scale, the majority of the sample interacts moderately with the news alerts at 48.4%, with the next largest group reporting a low level of engagement, 20.93%. In terms of high or intense levels of engagement with the alerts, a total of 30.23% of respondents are positioned at this end of the scale. It is worth observing that most of the participants who opt to receive news alerts on their phone tend to engage 'lightly' with them. Figure 3 below displays the breakdown of these self-report ratings.

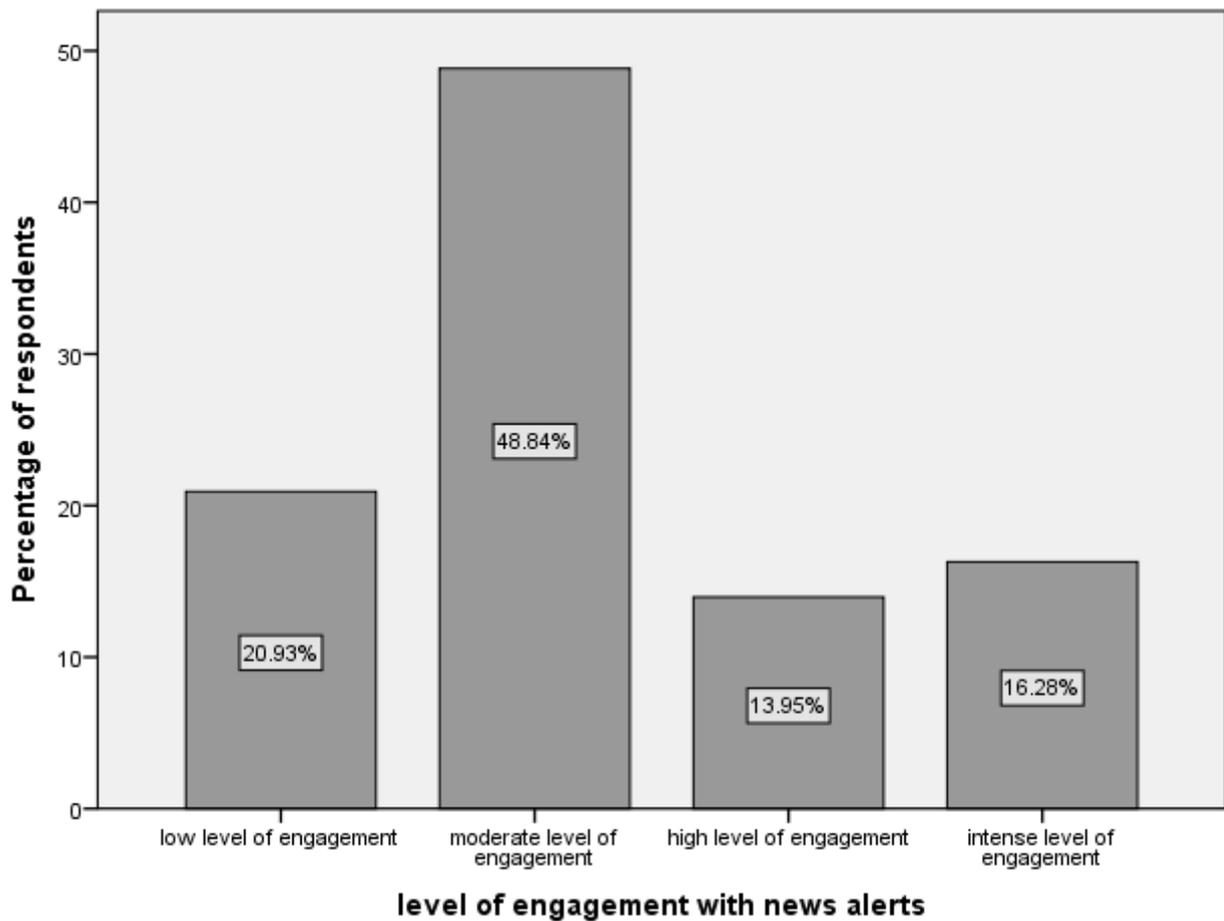


Figure 3: Bar chart showing ratings for engagement with smartphone news alerts

The personality measures included in the survey were each tested for reliability.

As Cronbach's alpha scores were all found to be over .7 and the item statistics were negative in value, the scales used were taken to be satisfactorily reliable. The 135 participants scored quite high in terms of the scale of optimism ( $M = 16.74$ ,  $SD = 4.14$ ), with 24 indicating very strong optimism and 0 indicating very strong pessimism. The average overall sample score for life engagement or purpose in life was also moderately high, with 6 being the minimum and 30 being the maximum ( $M = 24.87$ ,  $SD = 3.56$ ). The worry measure, which

is scored between 16 and 80, resulted in a mean just below the midway point, indicating a moderate level of worry within this sample ( $M = 44.93$ ,  $SD = 12.02$ ).

Means and standard deviations of the personality dimensions, along with results of reliability tests are shown in Table 1 below.

Table 1: *Descriptive statistics and reliability analysis results of personality dimensions*

Variable	Cronbach's Alpha	Mean	Standard Deviation	Possible Range of Scores
Life Orientation	.831	16.74	4.14	0 - 24
Life Engagement	.802	24.87	3.56	6 - 30
Worry	.918	44.93	12.02	16 - 80

### 3.2 Inferential Statistics

In analysing for correlational results between the criterion variables and predictor variables, the datasets were categorised as both scale and ordinal. As a result of checking for skewness and kurtosis, and observing the Shapiro Wilk significance test value, the datasets for two of the three scale variables were found to be not normal. Consequently Spearman's rho was used to explore all of the correlational hypotheses and for the not-normal data of the life engagement and worry measures, a Mann-Whitney U test was used in comparing the independent variables with these dependent variables. An Independent Samples t-test was employed to compare differences between participants who had a news app installed on their phone and those who didn't, in terms of levels of optimism, as this dataset was normally

distributed. Although the hypotheses from the outset were one-tailed in direction, the tests which were run were two-tailed in order to explore all potential trends.

A chi square test for association was used to explore the relationship, if any, between smartphone news app adoption and gender. This test was also run to investigate any associations between news app adoption and age.

*Hypotheses:*

H1: There is a relationship between mobile phone news app usage and optimism/pessimism levels.

A Spearman's rho correlation found that there was no significant association between mobile phone news app usage and optimism/pessimism ( $r_s(43) = -.09, p = 0.561$ ). The null hypothesis is accepted and hypothesis 1 can be rejected.

H2: There is a relationship between mobile phone news app usage and life engagement.

Again a Spearman's rho correlation found no significance between mobile phone app usage and life engagement variables ( $r_s(42) = -.04, p = .781$ ). The null hypothesis is accepted and the second hypothesis can be rejected.

H3: There is a relationship between mobile phone news app usage and worry.

According to a Spearman's rho correlation there was no significant association between mobile phone app usage and worry ( $r_s(40) = .01, p = .953$ ). The null hypothesis can be accepted and hypothesis 3 is rejected. See Table 3 for overall correlational results.

Table 2: Spearman's rho correlation between the criterion and predictor variables

Variable	Optimism	Life Engagement	Worry
Mobile News App Usage	-.09	-.04	.01

H4: There is a difference between the two groups on the level of optimism.

An independent samples t-test found that there was no statistically significant difference between optimism levels in people who have mobile phone news apps installed (M=16.41, SD = 4.20) and those who do not have mobile phone news apps installed (M=17.01, SD = 3.95) ( $t(131) = -0.67$ ,  $p = 0.503$ , CI (95%) -1.96 -> 0.96). Therefore the null can be accepted in this hypothesis.

H5: There is a difference between the two groups on the level of life engagement.

A Mann-Whitney U test revealed that the group without a news app installed on their phone (mean rank = 59.27) differed significantly from the group with a news app installed on their phone (mean rank = 73.06), in terms of life engagement ( $z = -2.027$ ,  $p = .043$ ). According to this data, respondents in the group with a news app installed on their phone scored higher on the life engagement scale. The difference between the median scores for each group is highlighted in Figure 4.

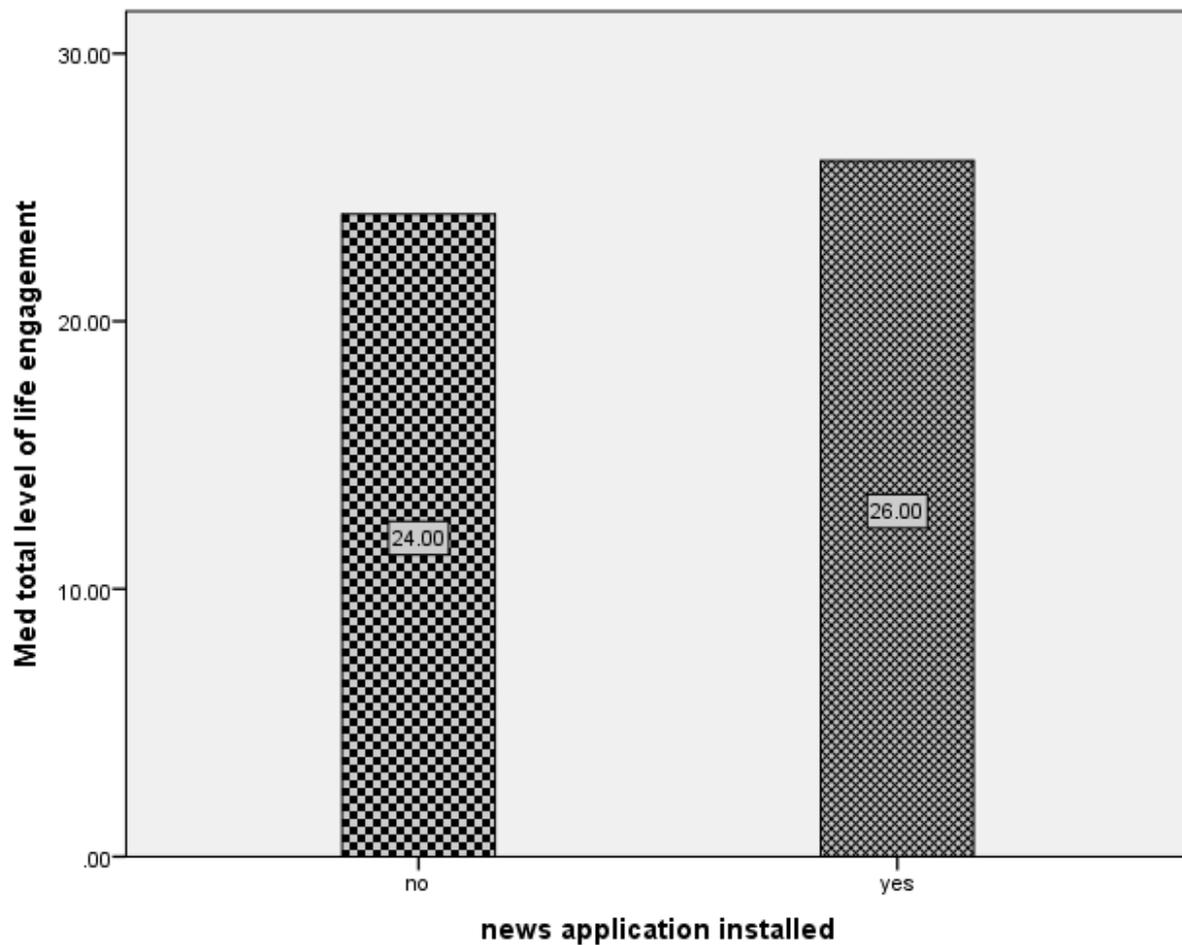


Figure 4: Bar chart showing comparison of median values for life engagement

H6: There is a difference between the two groups on the level of worry.

A Mann-Whitney U test revealed that the group without a news app installed on their phone (mean rank = 64.89) did not differ significantly from the group with a news app installed on their phone (mean rank = 65.08), in terms of worry levels ( $z = -0.29$ ,  $p = .977$ ).

### Other Predictor Variables

Gender:

A chi-square test for association found no positive significant relationship between the variables news app installed and gender ( $X^2(1, N = 135) = 1.25$ ,  $p = 0.264$ ). Overall,

66.7% of males reported having a news application installed on their smartphone. This was slightly lower for females with 56.7% of women reporting having a news app on their phone.

Age:

According to a crosstabulation of the variables age and news apps, the age group with the largest proportion of reported news applications installed was the 30-49 years age group, with 64.8% reportedly having a news app installed on their phone. Those participants aged between 18 and 29 were the group with the next highest percentage of people who reported having a news app (56.3%). A chi square test for association showed 3 cells (37.5%) having an expected count less than 5. As assumptions were violated, results were not sufficiently reliable to report.

### **3.3 Qualitative Analysis**

At the end of the online survey, in order to explore further the participants' emotional relationship with mobile news, a space was provided in which opinions and/or thoughts on the topic could be expressed. This question was optional and only 24 participants responded. Respondents were male and female and aged between 18 and 64. Transcripts of these comments were analysed using thematic analysis (Braun & Clarke, 2006). As the content for analysis was minimal, these findings were incidental in relation to the quantitative analysis conducted in this study. However, the three broad themes that were created and defined through coding and classifying provide a genuine indication of views and outlooks presented in relation to the research question.

Braun and Clarke's (2006) six phases of analysis were followed. Data was read through repeatedly and initial codes were developed. The answers were then categorised into themes and reviewed accordingly. A deductive or theoretical approach was taken to the

identification of themes as responses were analysed in relation to the research question being posited by this study. As the research question aims to explore the relationship between digital news and personality/emotional processing, comments that were attributed to trait variables alone, such as worry, were not incorporated into the final themes. The themes were identified and analysed semantically. This involved organising the data to show patterns in semantic content and subsequently summarising these patterns in terms of any significant broader meanings and implications (Braun & Clarke, 2006). Finally, themes at each level were defined and appropriately named.

#### Theme 1: Relationship with News

This theme was identified in the hope of gaining an insight into participants' opinions about digital news in general.

Participant 71; "(people) receive news and alerts at too fast a pace that they have less time to process what they read"

Participant 65; "With the nature of smartphones it is very easy to dismiss news that you don't want to read by scrolling to the next article."

These sample quotes indicate wariness about news obtained via smartphone. The participants seem to believe that the broad scope of news is not attended to and that the personalisation of news can lead to an avoidance or 'dismissal' of certain aspects of the news. Such conceptions compliment the idea that digital news apps do not serve as an in-depth platform (Peters, 2015) and thus may not impact on our cognitive and emotional processing. This theme also interestingly incorporates the sub theme of 'other sources of news' whereby

alternative ways of navigating the news on a smartphone are highlighted. Examples include following groups on Facebook and receiving email newsletters:

Participant 87; “I do have a daily news feed into my email from 2 newspapers.”

### Theme 2: News is negative

As referenced above, evidence shows that the content of news across all media is predominantly negative. This second theme was developed to isolate and interpret any thoughts expressed with relation to smartphone news being linked to negativity.

Participant 1; “I generally expect to hear bad news on app.”

Participant 31; “They make me feel negative about the world so I've deleted them.”

These comments indicate an acceptance that with news notifications comes negativity and, in turn, negative emotions may be generated.

### Theme 3: Relationship with smartphone

This final theme was identified to analyse and reflect on the extent to which participants feel that smartphone use is linked to emotions and wellbeing. There were very few comments offered about general mobile phone use but any opinions given referred to smartphones as a negative addition to life.

Participant 91 felt that, “Smartphones interfere with quality time spent with others.”

See below a model showing the relationship between these themes and subthemes (Figure 5). A word cloud based on the most common responses given in relation to these three themes is also presented (Figure 6).

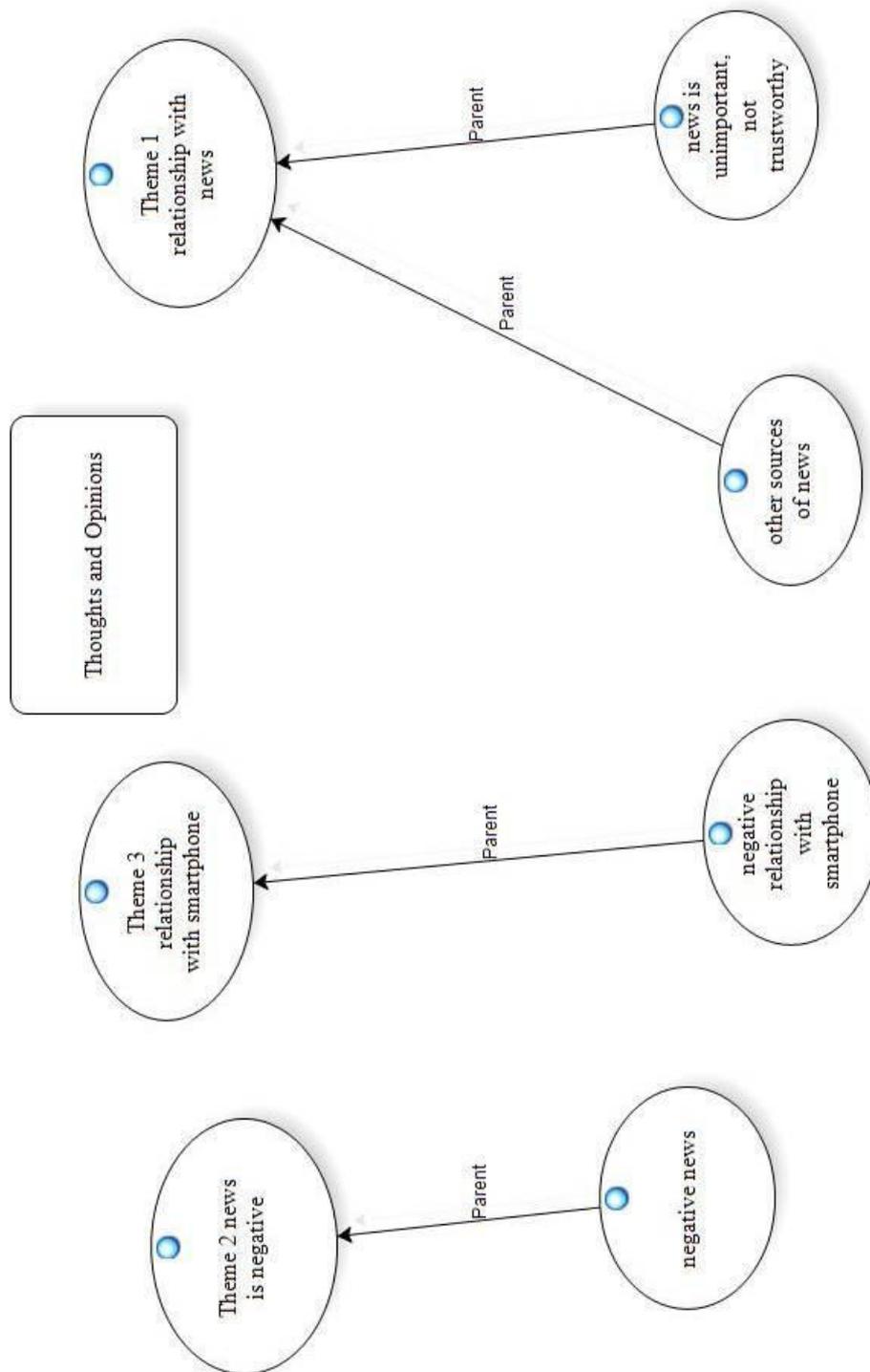


Figure 5: Model of themes and subthemes



## 4. DISCUSSION

The aim of this study was to explore any associations between engagement with online news, specifically smartphone news applications, and some select personality traits. This research was prompted and informed by past studies which were conducted on personality type and emotional processing in relation to the predominantly negatively skewed news media. The conception that negative news is 'bad' for us and detrimental to our emotional well being will be explored and evaluated through the prism of the findings of this study.

### 4.1 Findings

Through use of a Spearman's rho correlation, it was found that there was no significant relationship between intensity of mobile phone news app usage and levels of optimism/pessimism using the Life Orientation measure (Scheier et al., 1994) ( $r_s(43) = -.09$ ,  $p = 0.561$ ). It was also hypothesised that intensity of mobile phone app usage would be positively associated with life engagement and with worry. In both cases the null hypotheses were accepted and the hypotheses were rejected according to the Spearman's rho correlations performed, ( $r_s(42) = -.04$ ,  $p = .781$ ) and ( $r_s(40) = .01$ ,  $p = .953$ ) respectively.

This study is fundamentally based on the concept that news in general is mostly negative and so, it is inferred that online news material must also be predominantly negative in accordance with the research. Subsequently, it was posited that optimism levels would either predict intensity of use of news applications or, conversely, their use would predict the existence of this dispositional trait. The lack of support for this hypothesis could be aligned with the findings of Mcnaughton-cassill and Smith (2002) on the so-called 'optimism gap'. It could be said that Hypothesis 1 in the current study was not supported by the data due to the personal scope of the Life Orientation test used. Perhaps news that is consumed via

smartphone applications does not permeate our emotional processing to such an extent that outlook and beliefs about our own lives are altered.

The Life Engagement Test (Scheier et al., 2006) measures purpose in life in terms of value placed on activities and personal goals. It was hypothesised that intense interaction with alerts and the mobile news app would predict a higher level of life engagement. While there is no apparent research which explores the relationship between this measure and news consumption, researchers such as Zuiga and Gil (2012) show that engagement with the news on social media can relate positively to engagement in civic and political action also. However, this positive relationship is not evident in a more general sense of life engagement, according to the results of the present study. In contrast, Swart et al. (2016) found few signs of civic engagement resulting from news use across various media platforms. This trend seems to align with the findings in relation to Hypothesis 2, as no significance was found.

Johnston and Davey's study in 1997 revealed that watching a negatively valenced news programme was associated with higher levels of anxiety and a subsequent enhancement of catastrophising of personal worries. It could be inferred that this apparent link between worry and news consumption is dependent on the media platform involved. The rejection of the third hypothesis of the current study could be explained by reasoning that news accessed on a smartphone app does not necessarily impact on emotions and affects in the same way that television news does.

In the cross-sectional part of this study, the fourth hypothesis predicted that levels of optimism/pessimism quantified by the Life Orientation test would predict the adoption of smartphone news apps. An independent samples t-test found that there was no statistically significant difference between optimism levels in people who have mobile phone news apps installed and those who do not have mobile phone news apps installed ( $t(131) = -0.67$ ,  $p = 0.503$ , CI (95%)  $-1.96 \rightarrow 0.96$ ).

Studies conducted by Montag et al. (2014) and Xu et al. (2016) show that certain personality traits can act as significant predictors of behaviour on mobile phones and smartphone app adoption. However, according to the current study, traits of optimism/pessimism do not significantly relate to the adoption of smartphone news applications. The theory of negativity bias (Soroka & Adams, 2015) indicates that we are drawn towards negative stories and stronger reactions are elicited from negative news. The results of this study appear to suggest that having an optimistic or pessimistic view of life does not inform choices about mobile phone news engagement. It also can be held that having a mobile phone news app does not appear to be associated with having a pessimistic outlook, as hypothesised. Swart et al.'s (2016) findings indicate that news consumers are attending to news stories but not actively engaging with them, a theme which was also evident in the qualitative analysis results of this study. It may be a factor in explaining why life orientation does not seem to significantly predict smartphone news app adoption.

It was hypothesised that there would be a difference between the group which had not adopted a news application and the group which had, in terms of life engagement. Quantitative analysis provides support for this hypothesis. A Mann-Whitney U test revealed that the group without a news app installed on their phone differed significantly from the group with a news app installed on their phone ( $z = -2.027$ ,  $p = .043$ ). In other words, more people in the group with a news app installed scored highly on the Life Engagement Test (Scheier, 2006). Therefore, it can be said that the decision to adopt a smartphone news application may be dependent on the variable of life engagement or purpose in life. This finding supports the assertions of recent research that particular personality features can and do inform mobile phone application choices. Lane and Manner (2012), Montag et al. (2014) and Xu et al. (2016) show through their research that personality traits can be associated with preferences for certain applications.

On the other hand, having a strong engagement with life may be dependent on access to mobile phone news consumption. Shim et al. (2015) found that those who consume news on a smartphone have a strong information-seeking motive and that they view political news as being an important category of news. Due to this sense of purpose and engagement, the significant result of Hypothesis 5 appears to somewhat align with Shim et al.'s findings. It could also be said that this significance assigned to life engagement supports Zuiga and Gil's 2012 study whereby specific use of social media and civic/political action were positively related.

Lastly, according to a Mann-Whitney U test, no significant difference was found between the two groups in terms of worry levels ( $z = -0.29$ ,  $p = .977$ ). In other words, worry does not seem to determine whether a person installs a news app on their phone or not. Conversely, having a mobile phone news app does not appear to influence levels of worry in either direction. This insignificant result supports the findings of Roche et al. (2015) where it was found that online news consumption held no relation to anxieties about crime news in particular. The researchers' theory that, as people shift towards online news they are increasingly able to personalise and adapt the type of news which they are exposed to may provide some insight into why use of a smartphone news app does not seem to lead to an increase in worry (Roche et al., 2015). Peters' (2015) claim that mobile phone news does not function as an in-depth source compliments this idea and may also explain why worry is not, according to this study, a significant variable.

The themes developed as part of qualitative analysis, i.e. relationship with news, relationship with smartphone and news is negative, indicate a general scepticism about news and the way in which we interact with it. The evidence within these themes points towards a broad sense of frustration and intolerance toward smartphone news apps and mobile phone habits in general. These findings give support to the aforementioned US research which

claimed that a sizeable number of smartphone users feel distracted and frustrated by their phones (Smith, 2015).

## **4.2 Limitations**

A principal limitation of this study is its narrow demographic base in terms of age, gender and occupation. It would be interesting to see this type of study being conducted with a larger, more representative sample as intensity of engagement with news may vary more, particularly in relation to occupational status. Another weakness is the fact that traits and behaviours were only measured at one time point. Furthermore, a true picture of interaction with mobile phone news apps was not obtained as the study relied on a self-report scale of measurement.

While a conscious choice was made to limit the research to smartphone news applications alone, it is perhaps a limitation that news that is accessed on a mobile phone via alternative platforms was not taken into account. Evidence from qualitative analysis suggests that there is scope to take into account news being consumed on Facebook and other social networking sites.

Another weakness is that most of the data were not normally distributed so non-parametric tests were used to test for significance. Finally, the question at the end of the survey received a low number of responses and so the qualitative analysis is not wholly reliable.

## **4.3 Strengths**

Some strengths of this study include the clear and straightforward nature of the questionnaire and the fact that a scale of specific usage was used to quantify engagement with news applications. The two groups at the centre of the cross-sectional element of the research

were clearly segregated and easily classified. Lastly, because of the evolving nature of smartphone apps, this is a relatively new area of research. The current study should add to the research, as it takes into account trait variables not previously monitored in relation to engagement with news.

#### **4.4 Future Research**

A longitudinal study in which smartphone news app behaviour patterns are measured across a period of time by way of some sort of monitoring device on the participants' phones may provide a deeper, more realistic insight into this topic. As suggested by Roche et al. (2015), aspects of news assimilation, such as selection of content and retention of information could also be practically evaluated.

This study has alluded to the fact that personalisation of news apps and adapting settings according to user preferences are new factors which have the potential to moderate emotional responses to news. Future research could explore this new way of shaping the news on a personal basis, alongside emotional processing.

#### **4.5 Implication of Findings**

Although news is widely deemed as being overly negative, according to this study, 60% of respondents choose to use a news app, with over 50% of this group opting to be alerted to breaking news stories at any time of day or night. These findings may give weight to the principals underlying the theory of negativity bias, as outlined in the introduction.

Swart et al. (2016) assert that advances in technology have provided society with new communicative spaces and unfamiliar patterns of engagement. The findings of the current study indicate that consumption of news on a smartphone is not associated with optimism/pessimism levels or worry levels. Such findings could add, in a more domain

specific way, to Swart et al.'s (2016) idea that news is being consumed but disproportionately valued. Both these inferences about news consumption habits could have important implications for news media management, their choices in terms of informational content and the successful evolution of their digital spaces.

The apparent significance applied to the measure of purpose in life in terms of mobile phone news app adoption could lead to more importance being attributed to this variable. Previous studies have shown high levels of life engagement to be associated with good mental health and other positive attributes. Furthermore, with Unz et al. (2008) suggesting that emotional processing of news may lead to better engagement with life, it seems to be a subject worth exploring more extensively.

#### **4.6 Conclusion**

The study found no significant correlation between smartphone news app usage and the variables of life orientation, life engagement and worry. There was also no difference observed between groups with or without news apps installed in terms of life orientation and worry. Past evidence has shown that a relationship exists between news exposure on traditional media platforms and certain negative emotional responses. The results of the current study suggest that news content consumed on a smartphone possibly may not be assimilated in the same manner. The results also serve to reject the idea that neither an individual who is predisposed to pessimism or to worry may be more likely to adopt a mobile phone news app. There was a significant difference in the median scores of the two groups in terms of life engagement. This indicates that life engagement may potentially be a predictor for choosing to install a smartphone news app. Qualitative analysis revealed that the principal themes of the study were relationships with news, relationships with smartphones and news being perceived as generally negative.

As more and more people are consuming news by attending to push notifications and scrolling through personalised news content at any time and in any place, the news' perceived value and its position in the context of the overall human experience is changing. It is hoped that the findings of this study will add some points of understanding in relation to our interactions with online news in the digital age.

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## APPENDICES

### Appendix 1

#### Online Survey (Google Forms):

##### *Study on smartphone news apps*

My name is Aideen Mc Parland and I am conducting research in the Department of Psychology at Dublin Business School that explores the relationship between the use of smartphone news applications and some personality traits. This research is being conducted as part of my studies and will be submitted for examination.

You are invited to take part in this study and participation involves completing and returning the anonymous survey. There will be questions about mobile phone usage, personal outlook and behaviours. While the survey asks some questions that are personal and might cause some minor negative feelings, it has been used widely in research. If any of the questions do raise difficult feelings for you, contact information for support services are included on the final page.

Participation is completely voluntary and so you are not obliged to take part.

Participation is anonymous and confidential. Thus responses cannot be attributed to any one participant. For this reason, it will not be possible to withdraw from participation after the questionnaire has been collected.

Data from the questionnaires will be stored on a password-protected secure Gmail account server.

It is important that you understand that by completing and submitting the questionnaire that you are consenting to participate in the study.

The survey should take approximately 5-10 minutes to complete. Should you require any further information about the research, please contact Aideen Mc Parland, xxxxxx@[dbs.ie](mailto:xxxxxx@dbs.ie).

Many thanks for taking the time to complete this survey.

\* Required

Do you consent to participating in this study? \*

Yes

No

NEXT

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Never submit passwords through Google Forms.

\* Required

Do you own a smartphone? \*

Yes

No

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Select your gender:

Male

Female

Select your age group:

18-29 yrs

30-49 yrs

50-64 yrs

65 + yrs

What is your current occupation?

Your answer

Do you have a news application installed on your phone?

Yes

No

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Do you receive alerts on your phone linked to the installed news app(s)?

Yes

No

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Select one statement that best describes you:

I receive mobile phone news alerts but I don't pay much attention to them.

I read the news alerts and click through to the full articles on occasion.

I read the news alerts and frequently read the full articles.

I read the news alerts as they come in and spend some time each day scrolling through articles on the news app.

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Please answer the following questions about yourself by indicating the extent of your agreement using the following scale:

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

Be as honest as you can throughout, and try not to let your responses to one question influence your response to other questions. There are no right or wrong answers.

Strongly disagree

Disagree

Neutral

Agree

Strongly agree

In uncertain times, I usually expect the best.

It's easy for me to relax.

If something can go wrong for me, it will.

I'm always optimistic about my future.

I enjoy my friends a lot.

It's important for me to keep busy.

I hardly ever expect things to go my way.

I don't get upset too easily.

I rarely count on good things happening to me.

Overall, I expect more good things to happen to me than bad.

In uncertain times, I usually expect the best.

It's easy for me to relax.

If something can go wrong for me, it will.  
 I'm always optimistic about my future.  
 I enjoy my friends a lot.  
 It's important for me to keep busy.  
 I hardly ever expect things to go my way.  
 I don't get upset too easily.  
 I rarely count on good things happening to me.  
 Overall, I expect more good things to happen to me than bad.

Strongly disagree  
 Disagree  
 Neutral  
 Agree  
 Strongly agree

There is not enough purpose in my life.  
 To me, the things I do are all worthwhile.  
 Most of what I do seems trivial and unimportant to me.  
 I value my activities a lot.  
 I don't care very much about the things I do.  
 I have lots of reasons for living.  
 There is not enough purpose in my life.  
 To me, the things I do are all worthwhile.  
 Most of what I do seems trivial and unimportant to me.  
 I value my activities a lot.  
 I don't care very much about the things I do.  
 I have lots of reasons for living.

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Rate each of the following statements on a scale of 1 ("not at all typical of me") to 5 ("very typical of me"). Please answer as honestly as you can:

1  
 2  
 3  
 4  
 5

If I do not have enough time to do everything, I do not worry about it.  
 My worries overwhelm me.  
 I do not tend to worry about things.  
 Many situations make me worry.  
 I know I should not worry about things, but I just cannot help it.  
 When I'm under pressure I worry a lot.

I am always worrying about something.

I find it easy to dismiss worrisome thoughts.

As soon as I finish one task, I start to worry about everything else I have to do.

I never worry about anything.

When there is nothing more I can do about a concern, I do not worry about it any more.

I have been a worrier all my life.

I notice that I've been worrying about things.

Once I start worrying I cannot stop.

I worry all the time.

I worry about projects until they are done.

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### Final Thoughts

This question is optional.

You may express any thoughts or opinions you have on this topic in the space below:

Your answer

BACK

SUBMIT

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*Final Page:*

Thank you very much for sharing your answers. Your anonymous response has been recorded.

Many of the questions were personal in nature. Below are some contact details of support services, should you feel any distress or need to talk to somebody:

The Aware Support Line: 1890 303 302

[www.aware.ie](http://www.aware.ie)

[www.mentalhealthireland.ie](http://www.mentalhealthireland.ie)

[www.samaritans.org](http://www.samaritans.org)

Many Thanks, Aideen :)

[Submit another response](#)

## Appendix 2

### Life Orientation Test – Revised (LOT-R) and Score Sheet:

#### LOT-R

Please be as honest and accurate as you can throughout. Try not to let your response to one statement influence your responses to other statements. There are no "correct" or "incorrect" answers. Answer according to your own feelings, rather than how you think "most people" would answer.

A = I agree a lot

B = I agree a little

C = I neither agree nor disagree

D = I disagree a little

E = I disagree a lot

1. In uncertain times, I usually expect the best.
- [2. It's easy for me to relax.]
3. If something can go wrong for me, it will.
4. I'm always optimistic about my future.
- [5. I enjoy my friends a lot.]
- [6. It's important for me to keep busy.]
7. I hardly ever expect things to go my way.
- [8. I don't get upset too easily.]
9. I rarely count on good things happening to me.
10. Overall, I expect more good things to happen to me than bad.

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 Note:

Items 2, 5, 6, and 8 are fillers. Responses to "scored" items are to be coded so that high values imply optimism. Researchers who are interested in testing the potential difference between affirmation of optimism and disaffirmation of pessimism should compute separate subtotals of the relevant items.

Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A re-evaluation of the Life Orientation Test. *Journal of Personality and Social Psychology*, 67, 1063-1078.

## Appendix 3

## The Life Engagement Test:



### The Life Engagement Test (LET)

#### Instructions and Items:

Please answer the following questions about yourself by indicating the extent of your agreement using the following scale:

- {1} = strongly disagree
- {2} = disagree
- {3} = neutral
- {4} = agree
- {5} = strongly agree

Be as honest as you can throughout, and try not to let your response to one question influence your response to other questions. There are no right or wrong answers

1. There is not enough purpose in my life
2. To me, the things I do are all worthwhile.
3. Most of what I do seems trivial and unimportant to me.
4. I value my activities a lot.
5. I don't care very much about the things I do
6. I have lots of reasons for living

#### Scoring:

1. Reverse code items 1, 3, and 5 prior to scoring.
2. Sum items six items together to obtain an overall score.

**Citation:** Scheier, M. F., Wrosch, C., Baum, A., Cohen, S., Martire, L. M., Matthews, K. A., Schulz, R., & Zdzaniuk, B. (2006). The Life Engagement Test: Assessing purpose in life. *Journal of Behavioral Medicine, 29*, 291-298.

**The Penn State Worry Questionnaire:**

Patient Name: \_\_\_\_\_ Date: \_\_\_\_\_

**The Penn State Worry Questionnaire (PSWQ)**

Instructions: Rate each of the following statements on a scale of 1 (“not at all typical of me”) to 5 (“very typical of me”). Please do not leave any items blank.

1. If I do not have enough time to do everything, I do not worry about it. 1 2 3 4 5
2. My worries overwhelm me. 1 2 3 4 5
3. I do not tend to worry about things. 1 2 3 4 5
4. Many situations make me worry. 1 2 3 4 5
5. I know I should not worry about things, but I just cannot help it. 1 2 3 4 5
6. When I am under pressure I worry a lot. 1 2 3 4 5
7. I am always worrying about something. 1 2 3 4 5
8. I find it easy to dismiss worrisome thoughts. 1 2 3 4 5
9. As soon as I finish one task, I start to worry about everything else I have to do. 1 2 3 4 5
10. I never worry about anything. 1 2 3 4 5
11. When there is nothing more I can do about a concern, I do not worry about it any more. 1 2 3 4 5
12. I have been a worrier all my life. 1 2 3 4 5
13. I notice that I have been worrying about things. 1 2 3 4 5
14. Once I start worrying, I cannot stop. 1 2 3 4 5
15. I worry all the time. 1 2 3 4 5
16. I worry about projects until they are all done. 1 2 3 4 5

## Scoring the PSWQ

In scoring the PSWQ, a value of 1, 2, 3, 4, and 5 is assigned to a response depending upon whether the item is worded positively or negatively. The total score of the scale ranges from 16 to 80.

Items 1, 3, 8, 10, 11 are reverse scored as follows:

- Very typical of me = 1 (circled 5 on the sheet)
- Circled 4 on the sheet = 2
- Circled 3 on the sheet = 3
- Circled 2 on the sheet = 4
- Not at all typical of me = 5 (circled 1 on the sheet)

For items 2, 4, 5, 6, 7, 9, 12, 13, 14, 15, 16 the scoring is:

- Not at all typical of me = 1
- Ratings of 2, 3, and 4 are not transformed
- Very typical of me = 5

Citation: Meyer TJ, Miller ML, Metzger RL, Borkovec TD: Development and Validation of the Penn State Worry Questionnaire. *Behaviour Research and Therapy* 28:487-495,1990