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The Use of Reddit as an Inexpensive Source for High-Quality Data

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Today, researchers have the ability to conduct their investigations in a number of different manners, including both traditional testing using university subject pool participants and the more recent method of online recruitment. Although the use of internet participants is becoming more popular, this area of research is still very much in its infancy and needs further examination. Additionally, alternative web-based platforms need to be investigated because much of the literature has focused on using Amazon.com's Mechanical Turk (MTurk). Therefore, the current study recruited an internet population using the website Reddit, and compared them to a traditional undergraduate sample to learn more about this web-based platform. The results demonstrated similarities and distinctions between the two samples. Furthermore, previous findings in the psychological well-being literature were replicated. As a whole, the participants recruited from Reddit provided high-quality data that were inexpensive and comparable to the responses gathered using undergraduate participants. We conclude that this website appears to be a promising tool for the field of psychological assessment, research, and evaluation.

There is a rich history of assessment, research, and evaluation in psychology, utilizing a variety of different methodologies. Traditionally however, empirical endeavors often rely on a university participant pool (i.e., undergraduate psychology students), due to the advantages they offer researchers (e.g., abundant availability and low cost). Nevertheless, the use of this population may not always be preferable when attempting to interpret and generalize findings (Johnson & Borden, 2012). Using the internet, however, researchers are provided a unique opportunity to easily collect data in a novel manner (Reips, 2002), especially as access to the internet has become more widely available worldwide (Pew Research Center, 2016). Early studies investigating this methodology suggest it hosts a number of advantages both similar to and distinctive from those offered by undergraduate students, including the ease of collection (Buhrmester, Kwang, & Gosling, 2011), quality of the data (Shapiro, Chandler, & Mueller,

2013), and access to diverse populations (Casler, Bickel, & Hackett, 2013; Rouse, 2015). In sum, it seems that the future of online recruitment holds promise, despite its relative infancy, and would benefit from further examination.

Exploring the various sources at the researcher's disposal is important in order to determine the strengths and limitations of each. One option available to researchers includes structured platforms that require payment, such as Amazon.com's Mechanical Turk (MTurk). To learn more about MTurk and the functions it offers researchers, refer to the introduction provided by Mason and Suri (2012). Initial evaluations of MTurk have demonstrated its ability to be a desirable method of recruitment for the field to use (Berinsky, Huber, & Lenz, 2012) and guidelines for conducting research on this platform have been published to help the researcher get started (e.g., Mason & Suri, 2012; Paolacci, Chandler, & Ipeirotis, 2010). On the other hand, researchers may

turn to cheap, but unstructured, platforms (i.e., social media websites) for convenience sampling instead. Although beneficial for recruiting individuals in general, the haphazard nature of these websites may be associated with a number of limitations (King, O'Rourke, & DeLongis, 2014). To the best of our knowledge, much of the work done in this area has utilized MTurk specifically, with very few studies examining other alternative web-based platforms (e.g., Casler et al., 2013; King et al., 2014).

One alternative online platform that addresses the disorganized approach of social media recruitment, while providing the structure of more expensive alternatives without the monetary needs typically associated, is Reddit. This website refers to itself as “the front page of the internet” and contains many sub-websites on a wide-range of areas. It provides users with a collection of recent news, ratings of internet content, and user discussion on nearly any topic (“Reddit,” n.d.). One such topic includes the sub-website, SampleSize, which is a community of over 40,000 users gathered for survey recruitment (“SampleSize,” n.d.). Although the content posted on this sub-website appears frequently updated, we are unaware of any studies that have explicitly evaluated its usefulness as a method of recruitment. As such, examining its potential is of great interest, especially because this platform offers researchers a wide-range of other built-in capabilities. Some examples of these functions include allowing participants to leave general comments under the study posting, the ability for researchers to distinguish certain characteristics about their study (e.g., target certain populations, create exclusion criteria, etc.), and the option to describe why data are being collected (i.e., for casual, academic, or marketing use). These built-in features may be viewed as added capabilities, beyond those described later in the discussion section of this article. Furthermore, the Reddit SampleSize website provides additional information that assists users with navigating the website, getting started, and collecting responses (located on the sidebar of the main webpage). Finally, other helpful resources that describe data collection in the social sciences and conducting survey research in general are also provided.

When comparing the two platforms (i.e., MTurk and Reddit SampleSize), a number of both shared and nonshared features are seen. They are both similar in that they provide potential participants with an online list of studies that include descriptions and restrictions, with a

link to the actual study. More distinctly however, Reddit features a relatively simple platform, with studies listed in the order they are posted. On the other hand, MTurk provides a more elaborative experience, providing participants with enhanced search capabilities, as well as allowing researchers to host their studies either externally or on Amazon's servers (Mason & Suri, 2012). But with this greater functionality comes a literal cost, as researchers must pay MTurk participants, whereas Reddit recruits participants voluntarily. This no cost option seems quite advantageous, especially given that some researchers have discussed the difficulties that are associated with the cost of using MTurk (Rouse, 2015).

The Current Study

The current study adds to the existing body of literature by recruiting online participants from a source comparable, but unique, to those previously used in the literature and comparing them to a traditional undergraduate sample. In this way, we hope to not only supplement previous findings, but also advocate the use of other possible alternative web-based platforms such as Reddit. Unlike other paid internet sources (e.g., MTurk), collecting data on Reddit does not require monetary compensation and allows researchers to gather global responses through a volunteer basis of users who enjoy participating. Therefore, Reddit may bridge the gap between expensive (and structured) paid platforms and convenient (but unstructured) social media samples, such as Facebook and other internet-based panels. Finally, the validity of each sample collected was examined by attempting to replicate previous findings from the literature on psychological well-being and subsequently, a brief introduction into this topic is useful.

Early research on psychological well-being began several decades ago (Diener, 2013). This work drew from humanistic psychology perspectives, often focusing on the innate psychological needs that individuals are thought to have (Diener et al., 2010). These perspectives led to the development of current theoretical foundations from which research in this area often draws. Two notable theories include Ryff's Theory of Psychological Well-Being (Ryff, 1989; Ryff & Singer, 2013) and Self-Determination Theory (Ryan & Deci, 2000). More recently, this focus has expanded further and an entirely new psychological field has emerged known as positive psychology. It is outside the scope of the current article to discuss this literature in-depth, but

for an introduction into this body of research refer to Seligman and Csikszentmihalyi (2000) or Diener and Ryan (2009). The current study chose to replicate some of the early, well-established findings on psychological well-being. Specifically, we were interested in investigating the relationships between perceived stress, affect, and overall satisfaction with life. In their original study, Cohen, Kamarck, and Mermelstein (1983) demonstrated that perceived stress was significantly correlated with elevated depressive symptomology (i.e., negative affect). On the other hand, the relationship between life satisfaction and positive affect has been demonstrated in several studies (e.g., Diener, Suh, & Oishi, 1997; Diener, 2013; Diener, Inglehart, & Tay, 2013).

In comparing the two samples, three research questions were generated to explore the differences and similarities between the online and undergraduate participants. Additionally, a fourth research question that sought to replicate past findings in this field was examined to determine the validity of each sample. In this regard, two specific hypotheses were proposed based on the literature described previously. These are discussed in greater detail below.

- *Research question 1.* Do the sample characteristics of the Reddit source significantly differ from characteristics of a traditional undergraduate sample?
- *Research question 2.* Do the psychometric properties of the well-being measures differ between the two samples (i.e., internet versus undergraduate)?
- *Research question 3.* Do mean differences on each measure of well-being exist between each sample?
- *Research question 4.* Do the measures of well-being used here correlate in the direction expected and replicate previous findings in the literature?
 - *Hypothesis 1.* Perceived stress and negative affect will be negatively related to life satisfaction and positive affect.
 - *Hypothesis 2.* Life satisfaction and positive affect will be positively related.

Method

Participants

University sample. One hundred and ninety-eight undergraduate students (56 male, 142 female) were recruited using a traditional university participant pool

from a Midwestern campus in the United States. The sample ranged in age from 18 to 31 years old ($M: 19.97$; $SD = 2.04$). Additional sample characteristics are presented in Table 1.

Internet sample. The online discussion website, Reddit, was used to obtain 144 individuals (93 male, 50 female, 1 missing) for the internet sample. Participants ranged in age from 18 to 51 years old ($M: 24.34$; $SD = 7.37$) and approximately half of these individuals were not current college students. See Table 1 for additional sample characteristics.

Procedure

General procedure. Data were collected during the Fall semester of 2014 (for both samples) and the Spring semester of 2015 (for the university sample, only), as part of a larger exploratory study examining overall well-being and its correlates. SurveyMonkey.com was used to generate the HTML link which led participants to an online informed consent form and questionnaire. Prior approval from the Institutional Review Board was obtained before data collection began. Only the measures relevant to the current study are described here. For additional information regarding the complete questionnaire, please contact the first author.

University sample. A description of the study was posted on the university participant pool website and undergraduate students who chose to participate received the HTML link to SurveyMonkey.com, which contained the informed consent and questionnaire. Students enrolled in introductory psychology courses were required to engage in research experiences including study participation. Students completed the survey from a location of their choosing and were given academic credit for their participation.

Internet sample. A post was created on the website Reddit, under its sub-website, SampleSize, which contained a brief description of the study, as well as a link to the online informed consent and questionnaire. The study description was worded in a manner similar to that on the university participant pool website. After reading the description, individuals who chose to participate clicked the HTML link to advance to the questionnaire and informed consent. As with the student population, individuals could complete the survey whenever and wherever they chose. However, unlike the university sample, these participants did

Table 1. Sample Characteristics

	University Participant Pool		Reddit Pool		χ^2	df	<i>p</i>	
	N	%	N	%				
Age	<i>M</i> = 19.97	<i>SD</i> = 2.04	<i>M</i> = 24.34	<i>SD</i> = 7.37	<i>t</i> = 7.89 ^a	338	< .001	
Gender					5.42	1	.02	
	Male	56	28.28	93	64.58			
	Female	142	71.72	50	34.72			
Race								
	White	107	54.04	121	84.03	44.56	1	< .001
	Black	51	25.76	1	0.69	151.12	1	< .001
	Asian	4	2.02	6	4.17	296.19	1	< .001
	Hispanic	18	9.09	4	2.78	252.78	1	< .001
	Other/multiple	15	7.58	8	5.56	249.32	1	< .001
US citizen					142.35	1	< .001	
	Yes	194	97.98	86	59.72			
	No	2	1.01	58	40.28			
Highest education completed					116.76	2	< .001	
	High school/secondary school diploma, GED, or less	43	21.72	34	23.61			
	Some college, associate's, two year, vocational school, or equivalent	152	76.77	54	37.50			
	Bachelor's degree or more	2	1.01	54	37.50			
Cumulative College GPA	<i>M</i> = 3.17	<i>SD</i> = 0.57	<i>M</i> = 3.30	<i>SD</i> = 0.82	<i>t</i> = 1.37 ^a	248	.17	
Current college student?					120.85	1	< .001	
	Yes	198	100.00	74	51.39			
	No	0	0.00	69	47.92			
College year (if applicable)								
	Freshman	73	36.87	19	13.19	28.14	1	< .001
	Sophomore	51	25.76	16	11.11	56.80	1	< .001
	Junior	43	21.72	14	9.72	97.13	1	< .001
	Senior	31	15.66	11	7.64	127.08	1	< .001
	Graduate student	0	0.00	11	7.64	197.03	1	< .001
Full-time student?					229.78	1	< .001	
	Yes	197	99.49	64	44.44			
	No	0	0.00	11	7.64			
Psychology major?					123.60	1	< .001	
	Yes	38	19.19	5	3.47			
	No	159	80.30	66	45.83			

^a Age and GPA were assessed with open-ended questions and are continuous. Thus, mean differences were compared using a t test.

not receive compensation for their responses and their responses were completely voluntary. Those interested can access the SampleSize sub-website here: <https://www.reddit.com/r/SampleSize/>

Measures

Perceived Stress Scale. Participants completed the Perceived Stress Scale (PSS; Cohen et al., 1983), which measures the amount of daily stress. The measure consists of 10 items which are rated on a 5-point Likert-type scale (0 = *never*, 4 = *almost always*), with four positive items being reversed scored. To calculate overall perceived stress, scores across all items were summed after appropriate reverse scoring. For the university and internet sample, Cronbach's alpha was .82 and .90, respectively. Items begin with the stem, "In the past month, how often have you..." and an example of the item ending is, "felt unable to control the important things in your life." Additional information regarding scale dimensionality and the psychometric properties of this measure can be found in Cohen et al (1983).

Satisfaction with Life Scale. To measure overall life satisfaction, the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) was selected. Using a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*), this questionnaire measures responses to five items. An overall life satisfaction score was calculated by totaling responses for each item. Cronbach's alpha was .89 for the university sample and .90 for the internet sample. One example item includes, "In most ways my life is close to ideal." As previously demonstrated by Diener et al. (1985), the psychometric properties of this scale were determined to be reliable and unidimensional.

Scale of Positive and Negative Experiences. The Scale of Positive and Negative Experiences (SPANE; Diener et al., 2010) was selected to measure the participants overall affect. This scale contains 12 items which are rated on a 5-point scale (1 = *very rarely* or *never*, 5 = *very often* or *always*) and consist of two factors, positive and negative affect. Participants are asked to think about what they have experienced over the past four weeks, and then asked to rate their experience of 12 different feelings (i.e. six for each factor). Total scores for positive and negative affect were calculated by summing all items for each factor, respectively. One item under the positive affect factor loading includes, "pleasant", while an item under the negative affect factor includes, "unpleasant." Cronbach's alpha for the SPANE-P was .92 for the internet sample and .91 for

the undergraduate sample. For the SPANE-N, Cronbach's alpha was .82 and .85, respectively. Both dimensions of affect have been validated and found to exhibit good psychometric properties. Each scale is conceptualized as distinct, and factor analysis has shown that each is unidimensional (Diener et al., 2010).

College-related questions. Included in the survey were a number of questions that related to one's status in college. These questions measured the following: overall cumulative college grade-point-average (GPA), current student status, and if applicable, current year in college, full-time/part-time student enrollment, and status as a psychology major (see Table 1).

Demographic measures. Several demographic questions were also asked, including: age, gender, race, citizenship status, and highest education completed (see Table 1).

Results

Descriptive Statistics

The first research question examined the sample characteristics (i.e., demographic and college-related questions) for each of the two different groups recruited, comparing the internet participants to the undergraduate students. This information is displayed in Table 1, along with the respective comparisons. It is important to note that some participants did not respond to all survey items, therefore item totals may not reflect the total number of participants recruited. It was assumed that most college students would provide similar responses for some items (e.g., highest education completed), however, one participant reported having completed less than a high school education; it is possible that a high school student was dual-enrolled or participating in a distance learning course at the university. For those variables that were categorical, a series of chi-square tests of association were done to compare the two samples; significant differences in gender, ethnicity, citizenship status, and highest education attained were seen. Specifically, the internet sample contained more males than females, was less ethnically diverse than the undergraduates (although more participants reported being non-US citizens), and contained more highly educated individuals, some of whom had already graduated from college. Among the internet participants that reported being current students, a significant difference in their college-related answers (i.e., college year, enrollment status, and major) was seen, as

compared to the university sample. For the variables that were continuous (i.e., age and GPA), a *t*-test was conducted. Again, these analyses revealed significant differences between each sample. Internet participants ($M = 24.34, SD = 7.37$) were significantly older and covered a larger age-range than the undergraduates students ($M = 19.97; SD = 2.04$), $t(338) = 7.89, p < .001, d = 0.80$. However, the overall college GPA of the internet sample ($M = 3.30, SD = .82$) did not differ significantly from the university sample ($M = 3.17, SD = .57$), $t(248) = 1.37, p = .17, d = 0.18$. Taken together, these results indicate several commonalities and some distinctions between each group recruited.

reliable responses that were fairly comparable to one another.

Well-being across Samples

The third research question examined the scores for each sample on the four distinct measures of well-being. Specifically, a series of t-tests were conducted to compare the average well-being scores; see Table 2. A violation to Levene’s Test for Equality of Variances was found for the present analyses (i.e., the PSS, SWLS, and SPANE-P), indicating that the group variances were unequal. Therefore, a *t* statistic not assuming homogeneity of variance was conducted, adjusting the

Table 2. Scale reliabilities, mean comparisons, and descriptive statistics by sample

	Coefficient Alpha			University Participant Pool			Reddit/SampleSize Pool				Cohen’s		
	Uni. Part. Pool	Reddit Pool	<i>p</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>d</i>
PSS	.82	.91	<.001	198	2.89	0.65	144	2.96	0.85	0.84	257.94	.40	0.09
SWLS	.89	.90	.84	195	22.87	6.99	143	19.11	7.92	4.52	282.84	<.001	0.50
SPANE-P	.91	.92	.66	198	3.78	0.78	143	3.21	0.89	6.14	280.29	<.001	0.68
SPANE-N	.85	.82	.37	198	2.83	0.80	143	2.88	0.81	0.66	339	.51	0.06

Note. PSS = perceived stress, SWLS = satisfaction with life, SPANE-P = positive affect, SPANE-N = negative affect.

Reliability of Well-being Measures

The second research question focused on the reliability of the well-being measures collected (i.e., perceived stress, life satisfaction, and positive/negative affect). Following a similar procedure as Behrend, Sharek, Meade, and Wiebe (2011), Cronbach’s coefficient alpha was calculated for each sample to obtain a measure of internal consistency. Cronbach’s alpha for the PSS, SWLS, SPANE-P, and SPANE-N were excellent for both samples (see Table 2). In order to compare internal consistency across the two samples, a chi-square test statistic was calculated and the procedure described by Feldt, Woodruff, and Salih (1987) was followed using AlphaTest (Lautenschlager & Meade, 2008). No significant differences in internal consistency were seen for the SWLS ($\chi^2(1, n = 344) = 0.04, p = .84$), SPANE-P ($\chi^2(1, n = 344) = 0.20, p = .66$), or the SPANE-N ($\chi^2(1, n = 344) = 0.82, p = .37$). However, a significant difference was seen for the PSS ($\chi^2(1, n = 339) = 12.79, p < .001$); the two samples also differed on the variance in responses for this measure. As a whole, these findings suggest that the internet participants and undergraduate students provided

degrees of freedom using the Welch-Satterthwaite method (Satterthwaite, 1946; Welch, 1947). The two samples did not significantly differ on the PSS ($t(257.94) = 0.84, p = .40, d = 0.09$) or the SPANE-N ($t(339) = 0.66, p = .51, d = 0.06$). However, they did significantly differ on the SWLS ($t(282.84) = 4.52, p < .001, d = 0.50$) and the SPANE-P ($t(280.29) = 6.14, p < .001, d = 0.68$). The internet and undergraduate participants reported experiencing similar levels of stress and negative affect, but undergraduates reported higher levels of positive affect and life satisfaction.

Table 3. Zero-order correlations between each measure of well-being for the Reddit sample (below the diagonal) and the undergraduate sample (above the diagonal)

	1	2	3	4
PSS	---	-.49*	-.32*	.71*
SWLS	-.75**	---	.62**	-.32*
SPANE-P	-.66***	.65**	---	-.24**
SPANE-N	.73***	-.55**	-.57**	---

* $p < .005$, ** $p < .001$

Discussion

Despite the relative simplicity of this study's design, a number of important conclusions may be made: Reddit participants may offer more diverse sampling than traditional college student samples, while providing valid data with good measurement reliability. Importantly, these main points coincide with reports from past research using a different web-based platform (e.g., Behrend et al., 2011; Berinsky et al., 2012), suggesting that Reddit may offer the researcher benefits similar to those offered by MTurk (i.e., sample diversity, reliability of measures, and validity of data). However, unlike these studies, the current study demonstrated that the use of an alternative web-based platform (i.e., Reddit) allowed for the ability to gather high-quality responses from volunteer participants. Taken together, this suggests that Reddit may be a valuable tool for the collection of high-quality data in an inexpensive manner.

The current study demonstrated that similarities and differences exist between participants recruited from an online source (i.e., Reddit), as opposed to those recruited using traditional university samples. Compared to the college students, participants recruited online differed in their responses to college-related questions and offered a somewhat more diverse sampling, although these effect sizes were relatively small. On the other hand, the well-being measures collected demonstrated both commonalities (i.e., PSS and SPANE-N), as well as distinctions (i.e., SWLS & SPANE-P) between the two samples. In fact, it appeared that both samples provided excellent reliabilities for each of the measures collected and only significantly differed in PSS reliabilities (see Table 2). This significant difference may likely be attributed to the differing variances in perceived stress seen for each sample. It is important to note, however, that both samples provided adequate reliability for this measure, regardless of their differences. These internal consistency similarities are in-line with results reported by some (e.g., Rouse, 2015), but not all studies (e.g., Behrend et al., 2011; Burhmester et al., 2011; Johnson & Borden, 2012). Furthermore, this replication also demonstrated significant correlations in the expected directions for all well-being measures (see Table 3), based on the previous literature. Specifically, the findings are in line with Diener et al. (1997), who demonstrated the relationship between affect (both positive and negative) and life satisfaction. Additionally, the current study depicted an interrelationship between perceived stress and affect, replicating the results

demonstrated by Cohen et al. (1983). As a whole, these results provide support for using recruitment of this kind, as internet participants appear to provide data that are comparable to that of undergraduates. Moreover, it appears that the advantage of using Reddit, as opposed to other web-based platforms, is highlighted by the lack of monetary expenditure it requires to compensate participants.

The current study advances the literature in several ways. As previously mentioned, a few studies have been done which compare undergraduate to online participants (e.g., Behrend et al., 2011; Casler, et al., 2013), although it appears these studies often focus on recruitment using MTurk. Therefore, by using a unique website such as Reddit, this study adds to the existing body of literature examining internet recruitment and emphasizes the ability to gather high-quality responses, cheaply, using this specific online platform. This point is exemplified by the findings pertaining to the reliability of measures. The Reddit sample demonstrated excellent internal consistency, provided reliable responses, and also appeared more diverse than the undergraduates. Others have brought up that researchers are required to have an American, Australian, Canadian, or UK bank account to have access to the participant pool ("Amazon Mechanical Turk," n.d.) and that the majority of MTurk participants are American (Ipeirotis, 2010), whereas Reddit has no such restrictions and even provided the current study with international participants. Additionally, another asset to using internet recruitment includes the ease and speed of collection it offers (Buhrmester et al., 2011), especially in the case of Reddit. As other authors have discussed, websites such as MTurk may be easier than face-to-face testing, but still require a certain degree of involvement on the researcher's part (e.g., designing, publishing, and managing the study; Johnson & Borden, 2012). With Reddit specifically, the amount of involvement necessary is no more than that required if the study is conducted online using an undergraduate sample. The current study demonstrated this by recruiting a comparable sized internet sample using an identical manner of recruitment as the university sample (i.e., both samples followed a link to the survey) in much less time. Supporting this, other studies have also commented on the ability to promptly collect responses using online recruitment (Behrend et al., 2011; Shapiro, Chandler, & Mueller, 2013).

A few important limitations should be acknowledged. For one, samples recruited from internet sources may vary and thus, our specific Reddit sample may not be representative of other samples collected from this source at different times. As Paolacci and Chandler (2014) argue, the composition of online samples may depend on a variety of different factors (e.g., when the study is published online, who is currently on the website at the time, etc.). Although this is an important consideration to keep in mind, the magnitude of this limitation is most likely mitigated by posting the study online for longer periods of time. Additionally, this same point is true for the use of undergraduate students. That is, the composition of university samples may also vary due to a variety of factors (e.g., the semester in which data are collected, university demographic make-up, the location of the institution, etc.) and therefore, proper interpretation and generalization of findings is necessary regardless of how samples are recruited. In this way, internet recruitment may offer one way to generalize findings beyond undergraduate samples (Behrend et al., 2011; Casler et al., 2013). Furthermore, a gender imbalance appeared for both samples, albeit in opposite directions for each (i.e., more females in the undergraduate sample and more males in the internet sample). Although neither sample was perfectly representative in this regard, these results are in line with previous research suggesting that men more often own computers (Schumacher & Morahan-Martin, 2001) and spend more time using the internet (van Deursen & van Dijk, 2014), while females may be over represented in psychology participant pools (Willyard, 2011). Finally, it is important to recognize that although the study was carried out similarly for both samples, they did differ in how they were compensated. The Reddit participants were unique in that they completed the survey on a volunteer basis, while the undergraduates earned academic credit. Related to this, others have discussed the compensation requirements associated with online research (e.g., Buhrmester et al., 2011; Rouse, 2015), although they typically focus on the use of MTurk. Therefore, our study provides a noteworthy method of collecting responses for no-cost and despite differences in compensation, no evidence appeared that suggested participation or response quality was affected by this difference. In fact, it may be argued that in some ways participants from Reddit appeared more favorable, compared to traditional undergraduate students, due to the ease of data collection and lack of compensation

costs required, while still providing high-quality responses that were valid and internally consistent.

With online recruitment becoming more commonplace and alternative web-based platforms investigated, a number of important directions for future studies will need examination. First, it may be fruitful to compare across platforms (i.e., Reddit and MTurk) to supplement the comparisons done between online and face-to-face testing. Furthermore, future research examining the specific capabilities that each platform offers (e.g., time-to-completion data, ability to target specific populations, etc.) and comparing these functions across platforms is necessary. This will help gain additional insight into which sources may be most preferable and beneficial to the researcher's methodological repertoire. Additionally, it has been suggested that some participants on MTurk may bias results by becoming non-naïve (i.e., "SuperTurkers"), due to their frequent use and greater understanding of survey research (Chandler, Mueller, & Paolacci, 2014). This may also be a concern with the method of recruitment used here, however this issue is most likely mitigated by the fact that participation on Reddit is voluntary and data collection is not the main focus of the website. Nevertheless, the naivety of Reddit participants is an important consideration for future research to explore. Finally, to better understand how compensation affects both traditional and non-traditional samples, it may be useful to manipulate the amount of compensation participants receive, compare this within and across platforms, and see what effect this has on response quality. In this way, it will be especially interesting to gain a better understanding of the role that compensation plays in this emerging methodology. Indeed, the current study focused on this last point, highlighting the advantage that Reddit offers as an inexpensive source for high-quality data.

Conclusion

Taken together, the results presented offer the field a beneficial tool for recruiting participants inexpensively and reliably collecting data for research. Although internet recruitment is becoming more widely used and the literature in this area is growing (Paolacci & Chandler, 2014), much work still needs to be done to examine alternative platforms (King et al., 2014). Our study addresses this gap by using an alternative website (i.e., Reddit) to demonstrate the advantages this particular method of data collection offers. Our point

here is not to persuade against using either traditional undergraduate samples or paid internet recruitment, but rather to demonstrate the potential for sites like the one used here, which is comparable to those options. In doing so, it is our hope that exploring alternative methods of data collection will help progress the field towards a more comprehensive understanding of psychological assessment, research, and evaluation.

References

- Amazon Mechanical Turk. (n.d.). In Wikipedia. Retrieved May 5, 2017, from https://en.wikipedia.org/wiki/Amazon_Mechanical_Turk
- Behrend, T. S., Sharek, D. J., Meade, A. W., & Wiebe, E. N. (2011). The viability of crowdsourcing for survey research. *Behavior Research Methods*, 43, 800-813.
- Berinsky, A. J., Huber, G. A., & Lenz, G. S. (2012). Evaluating online labor markets for experimental research: Amazon.com's Mechanical Turk. *Political Analysis*, 20, 351-368.
- Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's mechanical turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science*, 6(1), 3-5.
- Casler, K., Bickel, L., & Hackett, E. (2013). Separate but equal? A comparison of participants and data gathered via amazon's mturk, social media, and face-to-face behavioral testing. *Computers in Human Behavior*, 29, 2156-2160.
- Chandler, J., Mueller, P., & Paolacci, G. (2014). Nonnaïveté among Amazon Mechanical Turk workers: Consequences and solutions for behavioral researchers. *Behavior Research Methods*, 46(1), 112-130.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 385-396.
- Diener, E. (2013). The remarkable changes in the science of subjective well-being. *Perspectives on Psychological Science*, 8(6), 663-666.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71-75.
- Diener, E., Inglehart, R., & Tay, L. (2013). Theory and validity of life satisfaction scales. *Social Indicators Research*, 112(3), 497-527.
- Diener, E., & Ryan, K. (2009). Subjective well-being: a general overview. *South African Journal of Psychology*, 39(4), 391-406.
- Diener, E., Suh, E., & Oishi, S. (1997). Recent findings on subjective well-being. *Indian Journal of Clinical Psychology*, 24, 25-41.
- Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D., Oishi, S., & Biswas-Diener, R. (2010). New measures of well-being: Short scales to assess flourishing and positive and negative feelings. *Social Indicators Research*, 97, 143-156.
- Feldt, L. S., Woodruff, D. J., & Salih, F. A. (1987). Statistical Inference for Coefficient Alpha. *Applied Psychological Measurement*, 11(1), 93-103.
- Ipeirotis, P. G. (2010, March 9). The New Demographics on Mechanical Turk. Retrieved from <http://www.behind-the-enemy-lines.com/2010/03/new-demographics-of-mechanical-turk.html>
- Johnson, D. R. & Borden, L. A. (2012). Participants at your fingertips: Using amazon's mechanical turk to increase student-faculty collaborative research. *Teaching of Psychology*, 39(4), 245-251.
- King, D. B., O'Rourke, N., & DeLongis, A. (2014). Social media recruitment and online data collection: A beginner's guide and best practices for accessing low-prevalence and hard-to-reach populations. *Canadian Psychology*, 55(4), 240-249.
- Mason, W. & Suri, S. (2012). Conducting behavioral research on Amazon's Mechanical Turk. *Behavioral Research Methods*, 44(1), 1-23.
- Paolacci, G. & Chandler, J. (2014). Inside the turk: Understanding mechanical turk as a participant pool. *Current Directions in Psychological Science*, 23(3), 184-188.
- Paolacci, G., Chandler, J., & Ipeirotis, P. G. (2010). Running experiments on amazon mechanical turk. *Judgement and Decision Making*, 5(5).
- Poushter, J. (2016, February 22). Smartphone ownership and internet usage continues to climb in emerging economies. Retrieved from Pew Research Center site: <http://www.pewglobal.org/2016/02/22/smartphone-ownership-and-internet-usage-continues-to-climb-in-emerging-economies/>
- Reddit. (n.d.). In Wikipedia. Retrieved February 4, 2017, from <https://en.wikipedia.org/wiki/Reddit>
- Reips, U. D. (2001). The web experimental psychology lab: Five years of data collection on the Internet. *Behavior Research Methods, Instruments, & Computers*, 33, 201-211.

- Rouse, S. V. (2015). A reliability analysis of mechanical turk data. *Computers in Human Behavior*, 43, 304-307.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78.
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069-1081.
- Ryff, C. D., & Singer, B. H. (2013). Know thyself and become what you are: A eudaimonic approach to psychological well-being. In *The exploration of happiness* (pp. 97-116). Springer Netherlands.
- SampleSize. (n.d.). In Reddit. Retrieved February 4, 2017, from <https://www.reddit.com/r/SampleSize/>
- Satterthwaite, F. E. (1946). An approximate distribution of estimates of variance components. *Biometrics Bulletin*, 2(6), 110-114.
- Schumacher, P., & Morahan-Martin, J. (2001). Gender, Internet and computer attitudes and experiences. *Computers in Human Behavior*, 17(1), 95-110.
- Seligman, M. E., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55(1), 5-14.
- Shapiro, D. N., Chandler, J., & Mueller, P. A. (2013). Using mechanical turk to study clinical populations. *Clinical Psychological Science*, 1(2), 213-220.
- van Deursen, A. J., & van Dijk, J. A. (2014). The digital divide shifts to differences in usage. *News Media & Society*, 16(3), 507-526.
- Welch, B. L. (1947). The generalization of student's' problem when several different population variances are involved. *Biometrika*, 34(1/2), 28-35.
- Willyard, C. (2011). Men: A growing minority? gradPSYCH, 9(1). Retrieved from <http://www.apa.org/gradpsych/2011/01/cover-men.aspx>

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