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The Relationship between Emotional Well-being and a Lack of Closure with Ex-partners

Nolan R. Hendrickson and Karolina Štětínová⁸

Breakups and troubles with a past romantic partner have long been known to be a major source of emotional distress in people. However, what is not commonly known are the exact reasons for the vast variability in rates of emotional recovery from a breakup and the effects an ex-partner may have on an individual's well-being post-breakup. Previous research has indicated that the strongest predictors of decline in well-being from a breakup are due to having personal investments with the other person and length of time since the breakup occurred. The current research used online surveys to investigate correlations between scores on the Warwick-Edinburgh Mental Well-being Scale and various Likert scale items related to uncertainty and a feelings of having lack of closure with an ex-partner. Results showed that declines in well-being after a breakup that occurred within the last year were related to having feelings of uncertainty about the decision to breakup (for those that initiated the breakup), and having uncertainty about why the breakup occurred (for those that did not initiate the breakup) were not statistically significant. Larger sample sizes are needed to make conclusions. Frequency of having thought about an ex-partner was moderately correlated with a decline in well-being. Additionally, uncertainty related to the decision to breakup was highly correlated with having thoughts about an ex-partner.

Keywords: breakups, uncertainty, Warwick-Edinburgh Mental Well-being Scale, closure

When it comes to a breakup between a person and his or her romantic partner, there has yet to be a consistent explanation for why so many people experience a decline in their well-being. It is a consistent finding that after a breakup with a romantic partner, there usually follows

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a decline in well-being, which can sometimes lead to significant life adjustment problems (Rhoades, Kamp Dush, Atkins, Stanley, & Markman, 2011; Simpson, 1987; Sweeper & Halford, 2006). In one of the largest studies done on breakups and well-being, researchers found that 43% of people who had recently broken up experienced a decline in their well-being (Rhoades et al., 2011). The overarching theme of the current study is to shed light on the following questions: what factors associated with a breakup can predict a decline in well-being, and, why do some people have a hard time getting over a breakup while others do not? Coming closer to answering these questions is important because it may provide insight as to what people can do following the termination of a relationship to make themselves feel better.

Previous researchers who attempted to find correlations between factors associated with a breakup that relate to well-being have led to the development of many different theories. Cognitive theory holds that our thoughts directly influence our feelings, and so upon termination of a romantic relationship, it is our thoughts about our ex-partners that can strongly predict well-being. Brenner and Vogel (2015) tested thought content by examining thoughts of rumination about their ex-partner. They defined positive content valence as having thoughts that tend to evoke positive emotion, such as thinking about the good memories, while negative content valence as related to thinking about the times your ex emotionally hurt you. The results showed that having a higher positive content valence (focusing on positive aspects of the relationship)

was actually associated more strongly with difficulty recovering from a breakup than having negative content valence about the relationship (Brenner & Vogel, 2015). While this was only correlational research, it still puts into question the merits of cognitive theory as a valid explanation for the distress that follows a breakup.

Control theories have also been proposed to explain the wide variability of distress people can experience after a breakup. Control-based theories of post-relationship distress hold that people who perceive control in their ability to manage stress and negative emotion will be better off than those who do not perceive such control. One study provided support for the control theory and showed that those who perceived more control over their ability to alleviate negative moods predicted a lower rate of depression immediately following a breakup (Mearns, 1991). Mearns (1991) did not find a correlation between perceived control (as measured by the negative mood regulation scale) and long-term rates of depression.

Research has also been done on attachment styles as they relate to breakup distress. Attachment theory holds that people have a certain tendency toward how they handle their relationships with other people. In the event of a breakup, attachment theory would suggest that people with differing attachment styles will exhibit unique coping behaviors and experience different levels of distress (Davis, Shaver, & Vernon, 2003). Among the types of adult attachment styles that are thought to exist, those who exhibit an anxious-preoccupied insecure

attachment style would be most likely to react adversely to the termination of a relationship due to their tendency to self-blame and seek high levels of intimacy; meanwhile, those who have a secure attachment style would be more likely to deal with the termination of a relationship successfully. Evidence in support of the attachment theory from Davis et al. (2003) showed that insecurely attached individuals were more likely to resort to the use of drugs and alcohol to cope with breakup distress. Additionally, their research revealed that attachment-related anxiety (a trait by which people have a tendency to worry about the responsiveness of their partners) was correlated with having more intense emotional and physical distress reactions toward a breakup (Davis et al., 2003).

Finally, commitment theories hold the idea that the more invested a person is in his or her partner, such as living together, having children, or working together, the more intense the feelings will be after a breakup. Consistent with commitment theories, Rhoades et al. (2011) found evidence that suggests that plans for marriage and cohabitation were predictors of emotional distress in a breakup; however, having children was not. Despite these results, as Rhoades et al. (2011) point out, the effect size for each factor was marginally small.

Research designed to find specific factors related to people and their ex-romantic partners which would predict relationship distress provided a mixture of findings. Numerous sources have supported the finding that length of time since the breakup occurred was inversely correlated

with a rise in well-being, implying that time is likely to be the strongest predictor of well-being post-breakup (Rhoades et al., 2011; Simpson, 1987). In a large correlational study, Simpson (1987) found that 3 out of his 10 factors predicted emotional distress to a breakup: 1) closeness to the partner, 2) duration of relationship, and 3) ease of finding another partner. Simpson (1987) concluded that people who did not think they would easily be able to find a desirable replacement for their ex-partner experienced more distress than those who thought they might be able to do so. Not surprisingly, Simpson (1987) also found that these same factors predicted relationship stability as well. Contrary to these logical findings, Rhoades et al. (2011) found some specific factors that were not associated in any way with breakup distress that one might intuitively think. The quality of the relationship, desire to end the relationship, continued contact after the relationship terminated, and dating someone new after the breakup each did not have any significant correlation to breakup distress (Rhoades et al., 2011).

Until recently, there has been little to no research done on examining the effects of closure in a relationship and feelings of uncertainty of getting back together with an ex-partner as it relates to psychological well-being. The power of having feelings of uncertainty has been shown in studies, but has not as of yet been related to relationships. In one study, researchers found that controlling for the levels of uncertainty of what would happen to characters in a movie was enough to significantly affect the viewer's emotional reactions to events shown in the film

(Bar-Anan, Wilson, & Gilbert, 2009). Inspired by these findings, we were curious to see if the emotional distress that follows a breakup could be amplified or related in any way to having feelings of uncertainty about why a significant other broke up with them, having feelings that they might still get back together with their ex-partner, or uncertainty as to whether or not they made the correct decision to break up.

Furthermore, the rationale behind this study comes from the theoretical idea that it can be difficult for people to live their life genuinely and with full enjoyment if they have lingering uncertainties about what to do about an ex-partner. In other words, if a person has unresolved conflicts with an ex-partner, his or her subconscious thoughts about getting back together with an ex-partner may, in theory, be influencing his or her ability to live freely and whole-heartedly. Catharsis, or an alleviation of psychological distress, has often been described as a reduction of uncertainty within a person's life toward an interpersonal relationship (Guerin, 2001). If unresolved tensions and uncertainty toward an ex-partner can be related to catharsis, then it would be expected that those who still have tensions and uncertainty would be less psychologically well than those who have come to terms with their past relationships.

It is also worth mentioning, that measures of well-being have often been put under scrutiny for their validity as a measure. Often times, scores on well-being measures get used as a benchmark for what types of behaviors should be avoided, without good reasoning. Ryff (1989)

points out in one of her studies that various elements of well-being indexes, such as measures of positive functioning, are not consistent with each other, thus questioning what well-being is actually measuring.

In order to shed light on some of these concepts, we devised a correlational study to see if we could find a relationship between a person's psychological well-being during the past two weeks and various factors that attempt to measure feelings of a lack of closure toward a former romantic partner. Our research does not focus specifically on breakups, but rather attempts to isolate a participants' feelings about a person who they did experience a breakup with in the past. To measure feelings of a lack of closure, surveys asked participants questions about how they currently feel toward one of their ex partners. Our study separated people into two main groups: those who initiated the breakup, and those who did not initiate the breakup. A lack of closure for those who did initiate the breakup was measured by their subjective feelings of uncertainty about their decision to break up. For those who did not initiate the breakup, a lack of closure was measured by feelings of not being sure why the other person initiated the breakup as well as their desire to try and work out things with their ex-partner.

The broad goal of the research results is to find factors related to a breakup that can predict well-being. For our study, we hypothesized the following: 1) For people who initiated their breakup, having feelings of uncertainty about their decision to breakup with their ex-partner

will be associated with a lower score on the well-being measure, 2) For people who did not initiate their breakup, having feelings of being unsure about why the breakup occurred will be associated with a lower score on the well-being measure, 3) Higher amounts of time spent thinking about an ex-partner will be associated with a lower well-being score, 4) Higher amounts of time spent thinking about an ex-partner will be moderately associated with both feelings of uncertainty about their decision to break up (for those who initiated the breakup) and feelings of being unsure why their breakup occurred (for those who did not initiate the breakup). All of these hypotheses share the idea that a person's well-being can be predicted by gauging the level of uncertainty they feel toward their past relationship. In addition to this, in relation to breakup distress, this study hopes to reveal a stronger for well-being than predictor than length of time since breakup.

Method

Participants

In total, 87 participants took part in our research. Of the 87 participants, complete demographic information (both sex and age) could not be gathered for 14 participants. This was due to both participant failure to report and methodological flaws. Among the 75 participants for whom sex demographic information was obtained, there were 55 women and 20 men. Among

the 73 participants for whom ages data was obtained, the ages ranged from 18 to 51 years ($M = 21$, $SD = 4.45$).

There were two methods of participant recruitment: the Lindenwood Participant Pool (LPP) and Facebook social media. A portion of our sample of participants came from the LPP, which is an institutional program for ethical participant recruitment. Participants from the LPP included only undergraduate university students from selected general education and entry-level classes that participate with the research program. Both native and international students can be part of the LPP program. Recruitment for participants from the LPP occurred through an advertisement of our study through the Sona Systems website, which provided a direct link to the online study. The remaining portion of our sample consisted of users of Facebook website who voluntarily decided to participate in the study. Recruitment for participants through Facebook social media occurred by posting statuses on the researcher's private Facebook pages with direct links to the online study. The participants recruited through Facebook social media, while anonymous, were most likely to be college-aged adults and people who personally knew one of the researchers. Additionally, the participants that were recruited through Facebook may include a diverse sample of either American or non-American people.

For members of the LPP, one extra credit point was offered for their respective classes as an incentive to participate in any research study conducted through the LPP. Participants who

were not recruited through LPP, but rather through the researchers' private Facebook pages were not offered any incentives for participating.

Materials and Procedure

The study was conducted as an online survey which was created through the SurveyGizmo website (see Appendix A). All participants were informed through the recruitment information that the survey would take roughly 10-15 min to complete. Also, since our study was in online form, the participants had the opportunity to take the survey at their own schedule and location. The survey was open to be taken at any time of the day.

The online survey was divided into three parts. After the participants became familiar with the conditions of the study and agreed to participate, which was confirmed by checking "Yes" at the end of the informed consent statement, they were presented the first part of the survey measuring emotional well-being. Part one consisted of 14 questions which were, with the permission of the authors, adopted from The Warwick-Edinburgh Mental Well-being Scale (WEMWBS) (Tennant et al., 2007). The WEMWBS measure was the preferred measure of well-being in our study for a few reasons. First, the WEMWBS is considerably shorter in length than other established well-being measures, making the study shorter and thus making our survey more likely to be taken by busy college students. Second, the WEMWBS focuses on measuring well-being as levels of happiness, productivity, and feelings of being loved, which is precisely

what we believe might be correlated in some way with having a lack of closure or uncertainty in a previous relationship. Similarly, the WEMWBS focuses only on how a person feels during the past two weeks, making the score more dynamic than other well-being measures that have scores that vary very little over the course of time, and thus it is more likely that we can find a correlation between well-being and feelings of a lack of closure or uncertainty toward a previous partner. Finally, the WEMWBS was chosen because it is a validated and reliable measure that has been used in previous research, which made it easier for us to make comparisons from our data to that of other research that featured the WEMWBS. Each question on the well-being part of our survey appeared in the form of a Likert scale ranging from 1 to 5 (1 being “None of the time” and 5 being “All of the time”). It is also important to mention that the well-being measure was purposefully placed before the part concerning an ex-partner, because we did not want thoughts of an ex to influence the scores on the well-being measure.

Part two was a set of questions developed by the researchers which consisted of 11 questions focusing on the participants’ subjective feelings toward one of their past relationships. The relationship survey included seven Likert scale questions with the range from 1 to 5, three “Choose the best option” questions, and one “Fill-the-blank” question. The third and final part of the survey consisted of two demographic questions asking about the participants’ sex and age.

Scoring of the participants' responses to the WEMWBS was done according to the WEMWBS scoring key (see Appendix B) (Stewart-Brown & Janmohamed, 2008). Statistical analysis of the collected data was done by using MiniTab 17 software.

Results

Data Management

Well-being measure. All participants who did not complete the necessary components of the relationship survey or were missing at least two scores on the well-being measure were excluded from analysis. For those participants who missed only one item on the well-being measure, a filler item was placed in order to get a reasonably accurate total well-being score so that the data could be used. The filler item was created by the average score amongst the remaining items.

Data Analyses

In order to see how variables related to an ex-partner predict well-being, we conducted a series of correlations on the 75 participants who met the criteria for having at least one ex-partner. For data analysis purposes, we separated the participants into two groups: 1) those who initiated the breakup, and 2) those who did not initiate breakup. However, some participants reported that their breakups were rather "mutual" or "unclear" instead of having a clear initiator. Of the 75 participants, 29 reported initiating their breakup, 30 reported the other person initiated

the breakup, 7 reported the breakup was mutual, and 9 reported the breakup initiator was unclear.

To account for this and make sure all data was useable for running the statistics, for those who answered that their breakups were “mutual” were regarded as having taken part in the initiation of their breakup, and those who answered that the initiation of their breakup was “unclear” were counted as being part of the group who did not initiate the breakup. Justification for this classification is appropriate, because the main reason for the separation of groups was to see if having control over the breakup was an important factor as it may relate to well-being.

Participants who reported that the initiator of their breakup was “unclear” as opposed to “mutual” were regarded as being less likely to have been a part of the decision to breakup, since the term unclear implies that there was little to no decision that was made in the first place.

In testing our original hypotheses, we wanted to run correlational analysis on the participants both with and without filtering for those who broke up in the last year. On one hand, we wanted to see if overall well-being was related to any variable specific to an ex-partner. On the other hand, by including data analyses that are filtered for people who broke up only within one year, we hoped that stronger correlations could help reveal possible variables that could be related to a decline in well-being following a breakup.

We conducted an initial test in order to see if well-being scores differed between people who have had an ex-partner before and those who have never had an ex-partner. An independent

two-samples *t*-test yielded no significant effect of having an ex-partner on well-being, $t(13) = -0.58, p = 0.574$.

Uncertainty and well-being. Hypothesis 1 predicted that for people who initiated (or contributed to the initiation of) their breakup, uncertainty about their decision to breakup would be associated with a lower well-being measure. A Spearman's rank correlation to test hypothesis 1 yielded a statistically non-significant negative correlation, $r(34) = -0.219, p = 0.2$. Filtering hypothesis 1 for breakups that happened only within the last year yielded a strong, but statistically non-significant negative correlation, $r(8) = -0.509, p = 0.133$.

Lack of closure and well-being. Hypothesis 2 predicted that for people who did not initiate their breakup, having an uncertainty about why their breakup occurred (lack of closure) would be linked with lower well-being scores. A Spearman's rank correlation to test hypothesis 2 yielded no correlation between closure and lower well-being scores, $r(37) = 0.003, p = 0.95$. Filtering hypothesis 2 for breakups that happened only within the last year also yielded no correlation, $r(19) = -0.021, p = 0.362$.

Time spent thinking about an ex-partner. Hypothesis 3 predicted that higher amounts of time spent thinking about an ex-partner will be related to a lower well-being score regardless of who initiated the breakup. A Spearman's rank correlation was consistent with hypothesis 3, yielding a weak, statistically significant, negative correlation, $r(73) = -0.285, p = 0.013$. Further

filtering for only breakups that happened within the last year yielded a moderate and statistically significant moderately strong negative correlation, $r(29) = -0.429, p = 0.016$.

Hypothesis 4 predicted that for those who initiated the breakup, uncertainty about their decision about breaking up with their ex-partners (indecisiveness) would be moderately correlated with amount of time spent thinking about their ex-partner. A Spearman's rank correlation exceeded the hypothesized expectations and found a very strong correlation between indecisiveness and time spent thinking about an ex-partner, $r(34) = 0.712, p < 0.001$. Filtering even further for breakups that occurred only within the last year yielded a similar relationship, although the sample size was much smaller, $r(8) = 0.661, p = 0.03$. However, a Pearson's product-moment correlation comparing time spent thinking about an ex-partner (filtered for 12 months or less) to time since the breakup did not yield as strong of a relationship, $r(8) = 0.361, p = 0.306$. Admittedly, for both of these samples that were filtered, a sample size of 10 participants is not enough to accurately claim whether indecisiveness or time since the breakup is more strongly related to how often people think about their ex-partners.

In a similar nature, hypothesis 4 also predicted that uncertainty on behalf of the people who did not initiate the breakup in the form of not being clear on reasons for the breakup (lack of closure) would also be associated with time spent thinking about an ex-partner. A Spearman's rank correlation failed to support this hypothesis and showed a weak, statistically non-significant

correlation, $r(37) = 0.238$, $p = 0.145$. Even after a filter for breakups within the last year, the results were still statistically non-significant, $r(19) = 0.264$, $p = 0.248$.

Additional analyses. In addition to our original four hypotheses, we were also interested in finding out which factor related to a breakup would best predict well-being. To do so, we ran multiple Spearman's rank correlations to check how each variable related to well-being. For this particular test, we did a filter for people who broke up only within the last 12 months to limit the many other variables that could influence well-being over the course of time. The results revealed that for those who did not initiate their breakup, the degree to which they felt bothered by the fact that they are not in contact with their ex yielded the strongest relationship to well-being, $r(17) = -0.701$, $p = 0.001$. Other variables were far less strong (see Table 1). For those who did initiate their own breakup, however, the sample size was too small ($N = 10$) to make any definitive judgments.

We were also interested to see whether or not being currently in a relationship can have moderating effects on the variables that might predict well-being. Filtering our sample of 75 participants for only the people who were currently in a relationship revealed that the correlations between well-being and likelihood of getting back together with an ex-partner, time spent thinking about an ex-partner, having anxiety-provoking thoughts about an ex-partner, and the degree it bothers the individual that they are no longer in contact with their ex-partner all

revealed smaller correlations (see Table 2).

Discussion

The results from the analyses have shown that within the first year of a breakup, for those who did not initiate their breakup, well-being most strongly correlated with the degree that it bothers a person that they are not currently in contact with their ex-partner. For the people that did take part in initiating their breakup that occurred in the last year, having feelings of indecisiveness about their decision to breakup was also strongly correlated with a lower well-being ($r = -0.509$), but was unfortunately not significant due to a very small sample size. Thoughts of an ex-partner were correlated strongly with lower well-being scores for all participants in the study ($r = -0.285$), and thoughts of an ex-partner was very highly correlated with levels of indecisiveness about their decision to breakup for those who initiated their breakups in the last year ($r = 0.712$). Results of hypothesis 3 failed to support the idea that a lack of closure is related to lower well-being scores.

Before looking deeper into the specific findings, we should mention that participant dropouts and/or surveys that were not completely filled out did not appear to be related to a purposeful withholding of information in any way. Rather, we believe that due to the nature of the online format of the study and the apparent randomness by which questions were not answered (meaning that no single question was often avoided) the data are likely still reliable,

despite having an occasional gap in the responses.

In regards to the analyses that were conducted, a major setback for finding significant results in this study was due to a lack of participants. There were not many participants who broke up within the last 12 months— especially for the group that did not initiate the breakup. However, despite the low numbers, we still found that indecisiveness about the decision to breakup was a stronger predictor than length of time since breakup, leaving open the possibility that indecisiveness plays a major role in a decline in well-being post-breakup in many individuals. Furthermore, the finding that indecisiveness about the decision to breakup was a stronger predictor to well-being than length of time since the breakup might imply that the correlations due to indecisiveness on well-being were not confounded or otherwise explained by how long it has been since the breakup occurred.

We were surprised that hypothesis 2, a lack of closure being correlated with well-being, showed almost no correlation at all. What makes it particularly interesting, however, was that the lack of closure did not show the same type of correlations as did other variables that were on the surface very similar. The results might suggest that immediately following a breakup, the change in well-being that people experience is almost certainly not due to not knowing the reasons for the breakup alone.

The results from hypothesis 4 are mostly relevant from a theoretical point of view. From

one theoretical ideology that is held by various forms of psychotherapy (psychodynamic for one), it is indecisiveness and unresolved tensions that fuel thoughts. In particular, as outlined by Guerin (2011), unwanted thoughts are sometimes thought of as a subconscious motivation to reduce uncertainty toward an interpersonal relationship (including a past relationship) in order to gain clarity and direction in life.

Knowing that there is a very strong relationship ($r = 0.712$) between frequency of thoughts about ex-partner and the level of indecisiveness about the decision to breakup for those who did initiate their breakup could be relevant for people who are “haunted” by unwanted repetitive thoughts about their ex-partners. From this theoretical perspective, if causation were to exist between level of indecisiveness and frequency of thoughts about one’s ex-partner, we may suggest that collapsing the uncertainty about the decision to breakup or embracing a conversation to reduce uncertainty with the other person may help reduce the amount of unwanted thoughts.

The finding that the strongest predictor of well-being for the population of people who did not initiate their breakup was “degree to which the person feels badly about not being in contact with their ex” is not so surprising. It could be the case that this question is synonymous to asking a question such as “the degree to which I miss my ex” or “degree to which I want to talk to my ex.” All things considered, it is simply very likely that anyone post-breakup would answer a higher degree to such a question. For this reason, we do not believe this finding to be

very relevant to building an understanding of why people feel badly after a breakup or what people should do to help alleviate post-breakup distress. With that said however, there is still a reasonable possibility that the strong correlation could include the idea that people may want to talk with their ex-partners, but are not doing so for some reason. From this perspective, it could be said that not talking to the other person when one truly wants to is living “non-genuinely,” and as the desire to talk to one’s ex-partner goes up but one is not, one’s well-being will go down.

It may not be all that surprising that people who were currently in a relationship showed smaller correlations between the research variables with well-being. This could imply that being in a relationship acts as a moderator to help people separate themselves from their ex-partner and help them cope. Also, as the data would suggest, being in a relationship is closely related to having lower levels of uncertainty, although it is only speculation as to whether or not having lower rates of uncertainty toward an ex-partner directly affects well-being. However, we believe that the most likely explanation for the difference is due to the significant differences in who initiated the breakup. Looking at the data revealed that the participants currently in a relationship were far more likely to have reported that they took part in the initiation of their breakup, while the participants who are single were far more likely to have reported that their ex-partner initiated the breakup. Evidence for this conclusion comes from the observation that, in general,

the correlations were smaller for those who initiated the breakup to the predictor variables of well-being when compared to the group of participants who did not initiate their breakup.

Taken altogether, the results from these differing analyses indicate that there are variables that are better predictors of emotional well-being than length of time since breakup. Future directions for research on the relationship between a lack of closure and uncertainty and emotional well-being should include a longitudinal design that can track for changes of levels of uncertainty throughout the course of time. If a longitudinal study were to be conducted, better insight could be gained regarding how closely indecisiveness or a lack of closure varies alongside well-being. Furthermore, if it could be shown that a sudden change in indecisiveness led to an immediate change in well-being, there would be good evidence to support the effects of uncertainty/lack of closure on well-being.

Finally, there is reason to believe that the WEMWBS measure of well-being was not the optimal choice. Out of curiosity, we ran a matrix of correlations to see if the individual items on the well-being measure correlated well with each other (similar to a test for inter-item reliability). Numerous items on the measure did not correlate at all with other items suggesting that at least for our population of participants, the measure may not have been a valid measure of well-being.

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Table 1

Initiator of Breakup and Correlations Between Well-being and Relationship Variables

Variables	Initiated breakup		Did not initiate breakup	
	Well-being (N = 36)	Well-being ≤ 12 months ^e (N = 10)	Well-being (N = 39)	Well-being ≤ 12 months (N = 21)
Closure (Q#20)			-0.003	-0.210
Work it out (Q#21)			-0.295	-0.438*
Indecisive (Q#22)	-0.219	-0.509		
Contact (Q#23)	-0.011 ^a	-0.273 ^b	-0.431* ^c	-0.701* ^d
Likelihood (Q#24)	-0.036	-0.561	-0.253	-0.185
Time Thinking (Q #25)	-0.036	-0.388	-0.390*	-0.438*
Valence (Q#26)	-0.232	-0.542	-0.334*	-0.483*
Time (Q#27)	-0.067	0.169	0.293	0.426

Notes. Spearman's rank correlations were ran for all Likert scale measures when correlated with well-being scores. Time was the only variables that used a Pearson correlation when correlated with well-being scores.

^a(N = 29).

^b(N = 7).

^c(N = 36).

^d(N = 18).

^eThis indicates that the well-being scores were used only if the breakup happened within the last 12 months.

* $p < .05$

Table 2

Relationship Status and Correlations Between Well-being and Relationship Variables

Variables	In relationship		Single	
	Well-being (N = 43)	Well-being ≤ 12 months ^e (N = 11)	Well-being (N = 26)	Well-being ≤ 12 months (N = 13)
Contact (Q#23)	-0.222 ^a	-0.499 ^b	-0.407* ^c	-0.634* ^d
Likelihood (Q#24)	0.004	-0.347	-0.087	-0.063
Time Thinking (Q #25)	-0.126	-0.274	-0.281	-0.328
Valence (Q#26)	-0.239	-0.763*	-0.457*	-0.553*
Time (Q#27)	-0.036	0.043	0.118	0.247

Notes. Spearman’s rank correlations were ran for all Likert scale measures when correlated with well-being scores. Time was the only variables that used a Pearson correlation when correlated with well-being scores.

^a(N = 39).

^b(N = 10).

^c(N = 22).

^d(N = 11).

^eThis indicates that the well-being scores were used only if the breakup happened within the last 12 months

* $p < .05$

Appendix A

The Online Survey from SurveyGizmo

The Connection between a Past Relationship and Emotional Well-being

INFORMED CONSENT STATEMENT

Page exit logic: Page Logic **IF:** Question "ELECTRONIC CONSENT: You verify that you have read the above information and agree to voluntarily participate in this study. *" #1 is one of the following answers ("Yes") **THEN:** Jump to [page 2 - The Warwick-Edinburgh Mental Well-being Scale \(WEMWBS\)](#) Flag response as complete

Page exit logic: Page Logic **IF:** Question "ELECTRONIC CONSENT: You verify that you have read the above information and agree to voluntarily participate in this study. *" #1 is one of the following answers ("No") **THEN:** Disqualify and display: "Thank you for taking the time to carefully consider the information provided before making your decision."

You are invited to participate in a research study conducted by Nolan R. Hendrickson and Karolina Štětínová for a class project in the department of Psychology at Lindenwood University, under the guidance of Dr. Michiko Nohara-LeClair.

Please read the information below before deciding whether or not to participate.

I understand that I will be taking part in a research project that requires me to complete a survey consisting of two parts: 1) A measure that is aimed to gauge my emotional well-being during the past two weeks (The Warwick Edinburgh Mental Well-Being Scale), and 2) Questions regarding a past relationship of mine.

It should take me approximately 10-15 minutes to complete this survey.

If I am a member of Lindenwood University Participant Pool (LPP), I will receive one LPP bonus credit toward a LPP participating course of my choice by participating in any part of this study. I will also gain experience taking part in an on-line survey study and possibly gain some insight into how psychological research is conducted.

I am aware that I am free to skip any questions in the unlikely event that I feel uncomfortable answering any of the items on either the Warwick Edinburgh Mental Well-Being Scale or the part concerning ex-partners. I am aware that some of the questions are personal in nature and could evoke emotions that I may not feel comfortable with. I am also aware that if I feel distressed in any way because of the nature of the questions, I am free to contact the experimenters about any of my concerns. Also, if I am a Lindenwood University student, and I find that taking the survey causes me significant discomfort, and I would like assistance, I am welcome to stop participating and contact the Lindenwood Student Counseling and Resource Center at 636-949-4889.

After the survey is completed, I am aware that I will be given information regarding the purpose of the study and freedom to inquire about the results of the study once completed. I am also aware that my participation in this study is strictly voluntary, and that I may choose to withdraw from the study at any time without any penalty or prejudice. I should not incur any penalty or prejudice because I cannot complete

the study. I understand that my participation in the study is completely anonymous, and that the information obtained from my responses will be analyzed only as part of aggregate data. I am also aware that my responses will be kept confidential and that data obtained from this study will only be available for research and educational purposes. I understand that any questions I may have regarding this study shall be answered by the researchers, whose contact information are provided at the end of this document. Finally, I verify that I am at least 18 years of age, and I am legally able to give consent.

(If you are a LPP student under the age of 18 years, unfortunately, you will not be able to take part in our survey. However, you will still receive bonus credit toward a LPP participating course of your choice for signing up for the study.)

For more information feel free to contact:

Researchers

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ELECTRONIC CONSENT: *Please select your choice below.*

Clicking on the "Yes" button below indicates that:

- You have read the above information.
- You voluntarily agree to participate.
- You are at least 18 years of age.

1) ELECTRONIC CONSENT: You verify that you have read the above information and agree to voluntarily participate in this study. **

Yes

No

THE WARWICK-EDINBURGH MENTAL WELL-BEING SCALE (WEMWBS)

Below are some statements about feelings and thoughts.

Please tick the box that best describes your experience of each over the last 2 weeks.

2) I've been feeling optimistic about the future

1- None of the time 2- Rarely 3- Some of the time 4- Often 5- All of the time

3) I've been feeling useful

1- None of the time 2- Rarely 3- Some of the time 4- Often 5- All of the time

4) I've been feeling relaxed

1- None of the time 2- Rarely 3- Some of the time 4- Often 5- All of the time

5) I've been feeling interested in other people

1- None of the time 2- Rarely 3- Some of the time 4- Often 5- All of the time

6) I've had energy to spare

1- None of the time 2- Rarely 3- Some of the time 4- Often 5- All of the time

7) I've been dealing with problems well

1- None of the time 2- Rarely 3- Some of the time 4- Often 5- All of the time

8) I've been thinking clearly

1- None of the time 2- Rarely 3- Some of the time 4- Often 5- All of the time

9) I've been feeling good about myself

1- None of the time 2- Rarely 3- Some of the time 4- Often 5- All of the time

10) I've been feeling close to other people

1- None of the time 2- Rarely 3- Some of the time 4- Often 5- All of the time

11) I've been feeling confident

1- None of the time 2- Rarely 3- Some of the time 4- Often 5- All of the time

12) I've been able to make up my own mind about things

1- None of the time 2- Rarely 3- Some of the time 4- Often 5- All of the time

13) I've been feeling loved

- 1- None of the time 2- Rarely 3- Some of the time 4- Often 5- All of the time

14) I've been interested in new things

- 1- None of the time 2- Rarely 3- Some of the time 4- Often 5- All of the time

15) I've been feeling cheerful

- 1- None of the time 2- Rarely 3- Some of the time 4- Often 5- All of the time

THE PART CONCERNING PAST ROMANTIC PARTNERS

16) Are you currently in a relationship?

- Yes
- No
- It's complicated / Other

Page exit logic: Page Logic**IF:** Question "Do you have any ex-boyfriends/girlfriends or ex-husbands/wives?" #17 is one of the following answers ("No") **THEN:** Jump to [page 15 - Thank You!](#)

17) Do you have any ex-boyfriends/girlfriends or ex-husbands/wives?

- Yes
- No

Page exit logic: Page Logic**IF:** Question "In your relationship, who initiated the breakup?" #18 is one of the following answers ("Mutual") **THEN:** Jump to [page 7 - Q:20](#)

Page exit logic: Page Logic**IF:** Question "In your relationship, who initiated the breakup?" #18 is one of the following answers ("Me") **THEN:** Jump to [page 8 - Q:21](#)

For the remainder of the survey, you will be asked questions regarding a former partner of yours (an “ex”). For information gathering purposes, we ask that you select just one ex when considering your answers for the following questions. It would be best to select the ex of yours that you had the most significant relationship with, and one that you are not currently in a relationship with. The questions that will be asked are aimed at gathering information about your current thoughts toward your past relationship, rather than how you felt in the past about your relationship situation.

If you have any confusion regarding some of the questions on the survey, please simply use your best judgement or feel free to skip the question/s.

18) In your relationship, who initiated the breakup?

- Mutual
- Me
- The other person
- Unclear

19) Please rate on a scale of 1 to 5, how clear were you about the reasons why the breakup took place?

- 1- Absolutely certain
- 2- Pretty certain
- 3- I have some idea
- 4- Pretty uncertain
- 5- Totally uncertain

Page exit logic: Page LogicIF: (Question "In your relationship, who initiated the breakup? " #18 is one of the following answers ("Mutual") AND Question "Please rate on a scale of 1 to 5, how strong is your desire to talk about the possibility of working things out with your ex." #20 is one of the following answers ("1- No desire at all", "2- A slight desire", "3- A moderate desire/ Maybe", "4- A strong desire", "5- An intense desire")) **THEN:** Jump to [page 8 - Q:21](#)

Page exit logic: Page LogicIF: (Question "Please rate on a scale of 1 to 5, how strong is your desire to talk about the possibility of working things out with your ex." #20 is one of the following answers ("1- No desire at all", "2- A slight desire", "3- A moderate desire/ Maybe", "4-

A strong desire", "5- An intense desire") AND Question "In your relationship, who initiated the breakup?

" #18 is one of the following answers ("The other person", "Unclear")) **THEN:** Jump to [page 9 - Q: 22](#)

20) Please rate on a scale of 1 to 5, how strong is your desire to talk about the possibility of working things out with your ex.

- 1- No desire at all
- 2- A slight desire
- 3- A moderate desire/ Maybe
- 4- A strong desire
- 5- An intense desire

21) Please rate on a scale of 1 to 5, the degree to which you have been indecisive/unsure about your decision to breakup (meaning, thoughts of whether or not you made the right choice, or thoughts of getting back together).

- 1- Extremely sure about my decision
- 2- Quite sure about my decision
- 3- Somewhat unsure about my decision
- 4- Quite unsure about my decision
- 5- Extremely unsure about my decision

22) Please rate on a scale of 1 to 5, how much it bothers you that you are no longer in contact with your ex.

- 1 – It doesn't bother me at all
- 2 – It sometimes bothers me
- 3 – It bothers me
- 4 – It really bothers me
- 5 – It bothers me immensely
- I am in contact with my ex.

23) Please select one of the following choices that best describes the likelihood that you might get back together with your ex.

- 1- Not going to happen

- 2- Small chance, but possible
- 3- Possible
- 4- Very possible, but not certain
- 5- It's probably going to happen

24) Ranking from 1 to 5, how often would you say that you think about your ex?

- 1- Never
- 2- Rarely
- 3- Sometimes
- 4 - Often
- 5- Very often

25) How often do you experience anxiety when thinking about your ex?

- 1- Never
- 2- Rarely
- 3- Sometimes
- 4- Often
- 5- Very often

26) Approximately, how long it has been since the relationship ended (in months)?

DEMOGRAPHIC INFORMATION

27) Sex:

- Male
- Female

28) Age:

THANK YOU!

Thank you for participating in our study. Your response is very important to us.

The goal of our study is to find factors associated with a breakup that predict emotional well-being (the state of being happy, productive, and feeling loved). More specifically, we are interested in gathering information hoping to find possible links between how a person currently feels toward their ex-partner and their emotional well-being during the past two weeks.

We hypothesize that all people who feel as though they are unclear about why their breakup occurred, or feel that they had uncertainty about their decision to breakup with their ex-partner will show a lower score on the well-being measure. Additionally, we hypothesize that the more time spent thinking about one's ex will be strongly correlated with a lower emotional well-being.

Please note that we are not interested in your individual results; rather, we are only interested in the overall findings based on aggregate data. The study is completely anonymous and no identifying information about you will be associated with any of the findings, nor will it be possible for anyone to trace your responses on an individual basis. As a reminder, if you are a Lindenwood University student and you feel that you have experienced any distress from the survey, you are welcome to contact the Lindenwood Student Counseling and Resource Center at 636-949-4889.

If you are interested in obtaining the final results of this study based on aggregate data, or if you have any questions or concerns regarding any portion of this study, please do not hesitate to let us know now or in the future. Our contact information is to be found at the bottom of this letter.

Thank you for your valuable contribution to this study.

Sincerely,

Researchers

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Appendix B

The Warwick-Edinburgh Mental Well-being Scale (WEMWBS) Scoring Key

8. Using WEMWBS

WEMWBS is free to use but permission needs to be sought. Further information is included in Appendix i.

Data Collection

To date, WEMWBS has been administered in a self-completion format. This has been either via CASI (computer assisted self interviewing) whereby respondents are invited to enter their responses directly into the CAPI (computer assisted personal interview) machine (Well? survey and HEPS) or by the self-completion of paper formats of the scale (student samples and focus groups). WEMWBS can be assumed to be robust using either of these methods.

WEMWBS has not been tested in interview situations where an interviewer reads out the items to respondents and fills in their responses for them. We do not therefore know if WEMWBS is robust in these situations.

Scoring

Each of the 14 item responses in WEMWBS are scored from 1 (none of the time) to 5 (all of the time) and a total scale score is calculated by summing the 14 individual item scores (Table 5). The minimum score is 14 and the maximum is 70.

Table 5: Example: Scoring of WEMWBS - with responses highlighted in green

Statements	None of the time	Rarely	Some of the Time	Often	All of the time
I've been feeling optimistic about the future	1	2	3	4	5
I've been feeling useful	1	2	3	4	5
I've been feeling relaxed	1	2	3	4	5
I've been feeling interested in other people	1	2	3	4	5
I've had energy to spare	1	2	3	4	5
I've been dealing with problems well	1	2	3	4	5
I've been thinking clearly	1	2	3	4	5
I've been feeling good about myself	1	2	3	4	5
I've been feeling close to other people	1	2	3	4	5
I've been feeling confident	1	2	3	4	5
I've been able to make up my own mind about things	1	2	3	4	5
I've been feeling loved	1	2	3	4	5
I've been interested in new things	1	2	3	4	5
I've been feeling cheerful	1	2	3	4	5
Scores	0	0	4 x 3 = 12	4 x 4 = 16	6 x 5 = 30

Total Score = 0 + 0 + 12 + 16 + 30 = 58