Types of Subjective Well-Being and Their Associations with Relationship Outcomes

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Abstract

The authors examined the associations between three facets of subjective well-being (SWB; positive affect, negative affect, and life satisfaction) and relationship outcomes, employing multilevel models to analyze data from 90 couples. It was found that as participants' self-reported positive affect increased, they also reported higher perceived support from their partners, greater relationship satisfaction, perceived partners as being more helpful and less upsetting in support situations, and rated their partners as more important. As self-reported negative affect increased, participants reported lower perceived support from partners, lower relationship satisfaction, and perceived partners as less helpful and more upsetting. As self-reported life satisfaction increased, participants reported higher perceived support from partners, greater relationship satisfaction, and rated partners as more helpful and less upsetting. It was also found that participants' greater selfreported SWB was positively associated with their partners' reported relationship outcomes, even after controlling for the partners' own SWB. Thus, not only do those with higher SWB perceive their relationship as being of better quality, their partners also rate the relationship more positively. This finding suggests that people high in SWB do not just perceive their relationship as better, but create a better relationship for their partner as well. This finding also indicates that it is not just happy people perceiving everything, including their relationships, as superior, but that they have better relationships from the partner's viewpoints.

Keywords: Subjective well-being, happiness, relationships, relationship quality

Introduction

Subjective well-being (SWB) typically is divided into three facets: positive affect (PA), the relative absence of negative affect (NA), and overall satisfaction with life (LS) (e.g., Diener, 2009). A question that intrigues many concerns whether greater SWB is associated with positive relationship outcomes (e.g., Saphire-Bernstein & Taylor, 2013; Whelan & Zelenski, 2012; Nelson, 2009; Harker & Keltner, 2001; Tan & Tay, 2018). However, a problem emerges in that most studies do not examine all three aspects at once. For example, a study examining how positive affect is related to relationship satisfaction does not necessarily examine the associations between relationship satisfaction and

negative affect or life satisfaction. Thus, a more thorough understanding of how all three aspects of SWB relate to various relationship outcomes fills a need within the literature. As the three aspects of SWB are separable from one another, they may be related to different relationship outcomes, and their predictions may be due to their common variance or to the unique variance of each. Though there is evidence that successful relationships can make people happier, Lyubomirsky, King, and Diener (2005) make the case that happiness also leads to success. Specifically, as happier people experience positive moods more often, they are more likely to work toward their goals while in those moods and to possess skills and resources they have acquired

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and built upon. Lyubomirsky et al. (2005) proposed that "chronically happy people are in general more successful, and that their success is in large part a consequence of their happiness" (p. 804). One area in which happier individuals have proven more successful is social relationships, which the authors support with a review of cross-sectional, experimental, and longitudinal evidence. The connection between social relationships and SWB is particularly important as evidence shows that social relations are predictive of physical health (e.g., Tay, Tan, Diener, & Gonzalez, 2013). However, thus far there is not a clear picture of these separable and overlapping influences.

Aspects of SWB and Interpersonal Associations

There are many instances of interesting findings on SWB and relationships. For example, research has linked positive affect to better relationship outcomes (e.g., Lyubomirsky, King, & Diener, 2005; Moore, Diener, & Tan, 2018) and has found that increased SWB is linked to certain types of social interactions (Lyubomirsky & Layous, 2013). A study by George (1991) found that while positive mood was related to prosocial behavior at work, trait positive mood was not, which fits with the finding that inducing positive moods is linked to more helpful behavior (Aknin, Dunn, & Norton, 2012). Other work has found that PA can predict prosocial behavior even months later (Shin, Choi, Suh, & Koo, 2013). Indeed, those who experience more positive emotions are in general more popular and well liked (Diener & Tay, 2012), which may be why positive affect is associated with making more friends (Feiler & Kleinbaum, 2015). Longitudinally, it has been found that positive feelings at Time 1 predict better relationships at Time 2, often even after controlling for the Time 1 relationships (Kansky, Allen, & Diener, 2016).

Other studies have examined positive and negative affect. Nelson (2009) found that participants exhibited greater compassion, perspective-taking, and sympathy for someone of a different cultural perspective when in a positive mood compared to a negative or neutral mood. Whelan and Zelenski (2012) found that those induced into a positive mood felt more social and preferred social situations compared to those in a neutral or negative mood condition. Waugh and Fredrickson (2006) studied positive and negative emotions and found that positive emotions predicted greater perceived relationship closeness with one's new college roommate. The researchers also examined negative emotions, finding they were inversely correlated with perceived relationship closeness. However, when both were

entered, only positive emotions were significantly related to perceived relationship closeness.

Life satisfaction tends to be examined less often in the literature. However, findings by Luhmann, Lucas, Eid, and Diener (2013) focused on life satisfaction. They reported that life satisfaction was associated with a greater likelihood of getting married and having children. Another study focusing on the elderly found that higher attachment security predicted lower negative affect and greater life satisfaction 2.5 years later (Waldinger, Cohen, Schulz, & Crowell, 2015). A study conducted with married older adults found that while one's own marital satisfaction was correlated with life satisfaction, there was not a significant correlation between own life-satisfaction and spouse's marital satisfaction (Carr, Freedman, Cornman, & Schwarz, 2014).

Overall SWB and Relationship Outcomes

Another method of investigating the connection between SWB and relationships is to study overall SWB. For example, Priller and Schupp (2011) studied blood and monetary donations. They found that those who "felt happy" in the past month donated more frequently. Marks and Fleming (1999) also investigated the occurrence of life events. They found that those with higher levels of well-being were more likely to get married. Well-being was assessed using nine items that examined a variety of aspects of well-being (e.g., "life as a whole", "the work you do", "how you get on with people"). Another commonly used measure of SWB, which does not distinguish between the three separate aspects, is intensity of one's smile. Harker and Keltner (2001) found that positive expressions in women's yearbook pictures were associated with observers rating them more positively and as more rewarding to interact with. Hertenstein et al. (2009) used a similar measure, finding that less intense smiles were linked to a greater likelihood of divorce. Other work has found associations between global well-being and marital satisfaction (Cohen, Geron, & Farchi, 2009; Glenn & Weaver, 1981). Specifically, those with higher levels of life happiness are more likely to be in the highest marital happiness trajectory (Kamp Dush, Taylor, & Kroeger, 2008). This association between well-being and marital quality has also been supported with a meta-analysis by Proulx, Helms, and Buehler (2007).

The Present Study

While much research has been conducted to study how SWB relates to social outcomes, it is less common to study how PA, NA, and LS relate separately and in

common with diverse aspects of social quality. This study aimed to provide an analysis of how three aspects of SWB relate to various relationship variables. It was first examined how self-reported positive affect, negative affect, and life satisfaction were associated with self-reported relationship satisfaction, perceived support, perception of partners' helpfulness, upsettingness, and unpredictability when seeking support, and ratings of relationship importance. Next, it was examined whether participants' self-reported SWB was associated with their partners' self-reported relationship quality. Our study advances knowledge in several ways:

- 1. This work examines multiple forms of SWB together, not just one or two. Thus, it can be determined whether there are unique and overlapping associations and the relative strength of those effects can be judged.
- 2. This study examines a wide variety of social outcomes. Six relationship outcomes are studied for both participants and their partners.
- In addition to studying how participants' relationship outcomes are associated with their selfreported SWB, it was also examined whether participants' SWB was associated with their partners' self-reported relationship outcomes. Thus, it was able to be determined whether participants' SWB is important not only for their own relationship quality, but also for that of their partner. Importantly, this work also examined these questions when controlling for the partners' SWB. The relation between a participant's SWB and a partner's reports of relationship quality is very important. It indicates whether the association between SWB relationship quality is simply due to the fact that happier individuals perceive and rate most everything in more positive terms, or whether the relationship quality is actually better as seen by the partner. Furthermore, by controlling for the partner's SWB in this analysis, a more objective form of relationship quality is examined that is not due to each person's biases due to their SWB.

Method

Participants

Participants were recruited from the psychology department participant pool at their university (Moore, 2016). Participants received course credit for completing the survey. All those who signed up were required to have a significant other, of at least six months, who was also able to fill out the survey online. This research was limited to heterosexual couples. Both members of the couple acted as participants in this study. Thus,

depending on the question examined, a participant could be considered a target or a perceiver.

One couple was dropped from the study because a computer error destroyed most of their data, while another couple was dropped because the participant waited too long to schedule an appointment. Out of the 113 couples remaining, the HLM program then dropped 23 couples due to an insufficient amount of data. For these remaining 90 couples, the average participant age was 23.64 (SD=7.71), while the average relationship length was 40.11 months (SD=54.50). Thirty-six couples lived together and 23 couples were married.

Measures

Positive and negative affect. The Scale of Positive and Negative Affect (SPANE; Diener et al., 2010) was utilized to measure positive and negative affect (Cronbach's alpha = .81 to .89). To assess affect (versus mood), participants were asked how often they had experienced each feeling over the past 4 weeks from 1 (*very rarely or never*) to 5 (*very often or always*). Three items were chosen to assess positive affect: positive, good, pleasant. Three items were also chosen to assess negative affect: negative, bad, unpleasant. The SPANE measures feelings broadly and converges with other measures of emotions.

Life satisfaction. Cantril's Self-Anchoring Striving Scale (Cantril, 1965) was used to assess global life satisfaction. Directions ask participants to "please imagine a ladder with steps numbered from zero at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you." Participants then marked the spot on the ladder where they felt they fall. This measure has been widely used (e.g., Diener, Ng, Harter, & Arora, 2010).

Perceived support. To assess perceived support, the Interpersonal Support Evaluation List (ISEL; Cohen & Hoberman, 1983) was used (Cronbach's alpha = .60 to .77). This scale consists of 40 items and assesses participants' perceptions of the availability of social resources based on their responses. The items were altered slightly for this study so that they were suitable for college students in an intimate relationship who may not be married or living with their partner. Items were also framed so that participants indicated yes or no as to whether their partner would provide each type of support. This scale assesses different types of support such as tangible (e.g., my partner is willing to help me fix an appliance or repair my car), appraisal (e.g., I trust my partner to help me solve my problems), self-esteem (e.g., my partner takes pride in my accomplishments),

and belonging support (e.g., I can talk to my partner when I feel lonely), though only a total overall score of perceived support was examined.

Social relationships index (SRI). Four items were used from the SRI (Campo et al., 2009). This scale overall examines positivity and negativity in social relationships. Specifically, participants answered the questions "when you need support such as advice, understanding or a favor, how upsetting/unpredictable is your partner to you?" on a scale of 1 (not at all) to 6 (extremely). The fourth item was a rating of relationship importance: "how important is your partner to you?" This was reported on a scale of 1 (not at all important) to 6 (extremely important). Each item was examined individually.

Relationship satisfaction. The Dyadic Adjustment Scale (DAS; Spanier, 1976) was used to measure relationship satisfaction (Cronbach's alpha = .73 to .96). This is intended for married or unmarried cohabiting couples. Thus, for our sample, some items were slightly re-worded as participants were not required to be living with their partners. For example, the reference to a shared home was removed from one item. This scale consists of 32 items and contained several subscales that assessed the following: dyadic satisfaction (e.g., do you confide in your partner?), dyadic cohesion (e.g., how often do you and your partner laugh together?), dyadic consensus (e.g., how much do you and your partner agree regarding aims, goals, and things believed important?), and affectional expression (e.g., did not showing love cause differences or opinions or problems in your relationship during the past few weeks?). This scale was used to calculate an overall score of relationship satisfaction.

Other information. Participants were asked to report age, gender, relationship length, and to indicate whether they were married or cohabitating. When one couple reported conflicting answers as to whether they lived together, the most recent response was used. The same occurred when a different couple reported different answers as to whether they were married.

Procedure

Participants volunteered online to take part in the study. After arriving for their session, consent was obtained and they then completed the survey on a computer. After finishing the survey, participants gave the researcher their partners' email address. Partners were emailed a link to the exact same survey, which they were able to complete online. People completed measures reporting perceived support from their partner, items from the Social Relationships Index (Campo et al., 2009),

relationship satisfaction, demographic information, and reported their subjective well-being. When both partners had completed the study, they were emailed debriefing information and the participant(s) who signed up through the participant pool was/were awarded credit. Participants completed this as part of a larger study (Moore, 2016).

Analyses

Participants' self-reported SWB and relationship quality

To examine the associations between different aspects of subjective well-being and several specific types of relationship outcomes, a series of multilevel models (MLMs) were used to model the associations and to account for the dependency within couples, as both partners participated in this study, serving as both a perceiver and a target in the analyses. Gender and relationship length were controlled for. If reports of relationship length differed between partners, the average value was used. Relationship length was grandmean-centered, while gender was dummy coded. Below, the equations used are shown to model the association between participants' self-reported negative affect and perceived support:

Level-1 Model

Participants' Perceived Support_{ij} = β_{0j} + β_{1j} *(Participants' Negative Affect_{ij}) + β_{2j} *(Gender_{ij}) + r_{ij}

Level-2 Model

$$\beta_{0j} = \gamma_{00} + \gamma_{01}*(Relationship\ Length_j) + u_{0j}$$
 $\beta_{1j} = \gamma_{10}$
 $\beta_{2i} = \gamma_{20}$

Similar models were used to assess the associations between participants' self-reported negative affect and relationship satisfaction, how helpful one's partner is when seeking support, how upsetting one's partner is when seeking support, how unpredictable one's partner is when seeking support, and ratings of relationship importance. Self-reported positive affect and its associations with these six relationship outcomes were examined next as well as self-reported life satisfaction and its relation to these six dependent variables. As level-1 predictors, positive affect, negative affect, and life satisfaction were grand-mean-centered. All MLMs were run in HLM, version 7 (Raudenbush, Bryk, Cheong, Congdon, & du Toit, 2011). Analyses were conducted

using HLM's default settings and findings are reported using robust standard errors.

Participants' SWB and their partners' relationship outcomes

It was next assessed whether participants' SWB was associated with their partners' relationship quality. The associations between participants' self-reported positive affect and their partners' reports of perceived support, relationship satisfaction, participants' helpfulness, upsettingness, and unpredictability when they (i.e., the partners) sought support, and ratings of relationship importance were examined. The model used to examine the associations between participants' self-reported positive affect and their partners' perceived support is below.

Level-1 Model

Partners' Perceived Support Rating_{ij} = β_{0j} + β_{1j} *(Gender_{ij}) + β_{2j} *(Participants' Positive Affect_{ij}) + r_{ij}

Level-2 Model

$$eta_{0j} = \gamma_{00} + \gamma_{01}$$
*(Relationship Length_j) + u_{0j}
 $eta_{1j} = \gamma_{10}$
 $eta_{2j} = \gamma_{20}$

Next, similar models were used to examine the link between participants' self-reported negative affect and their partners' six relationship outcomes and between participants' self-reported life satisfaction and their partners' six relationship outcomes.

Finally, these analyses were repeated while also controlling for the partner's own SWB in each model. For example, when analyzing how participants' PA was associated with their partners' perceived support, the partners' positive affect was entered in as a control variable.

Level-1 Model

Partners' Perceived Support Rating_{ij} = β_{0j} + β_{1j} *(Gender_{ij}) + β_{2j} *(Participants' Positive Affect_{ij}) + β_{3j} *(Partners' Positive Affect_{ij}) + r_{ij}

Level-2 Model

$$eta_{0j} = \gamma_{00} + \gamma_{01}*(Relationship\ Length_j) + u_{0j}$$
 $eta_{1j} = \gamma_{10}$
 $eta_{2j} = \gamma_{20}$
 $eta_{3j} = \gamma_{30}$

Results

Descriptive

Subjective well-being. Examining the raw scores, negative affect averaged a score of 7.53 (SD = 2.36). Positive affect averaged an 11.85 (SD = 1.97). For both positive and negative affect, scores could range from 3 – 15 each. Life satisfaction had an average score of 6.99 (SD = 1.63), where scores could range from 0 to 10.

Relationship quality. Relationship satisfaction averaged a score of 114.82 (SD = 16.26), where scores could range from 0 - 146. Perceived support averaged a 36.59 (SD = 4.04), where scores could range from 0 - 40. Ratings of partners' helpfulness during support averaged a 5.04 (SD = .96), while ratings of partners' upsettingness averaged a 1.91 (SD = 1.04). Finally, scores of partners' unpredictability averaged a score of 2.14 (SD = 1.24). For each, scores could range from 1 - 6. Ratings of partner importance averaged 5.83 (SD = .42) out of a possible 6.

Factor Analysis

Before examining the associations between subjective well-being and the quality of partnerships, a factor analysis was performed on the relationship quality variables to determine whether they consisted of one versus several underlying dimensions. The factor analysis was intended to reveal how much of relationship quality is due to an underlying latent dimension, versus unique variance in each of its aspects, and to determine how strongly related this dimension is to relationship quality. A Principal Axis factor analysis (Maximum Likelihood produced very similar results) revealed one strong underlying factor, with only one factor having an eigenvalue above 1.0 (2.36), and accounting for 39% of the variance in the items. The subscale loadings on this factor are shown in Table 1. As can be seen, with the exception of the "Unpredictable" item all the loadings were high, with helpfulness, support, and satisfaction loading very highly on the single factor.

It would appear that both life satisfaction and positive affect have some unique variance in terms of predicting general relationship quality, whereas negative affect primarily captured predictive variance that is with other types of SWB. To examine this further, several regression analyses were conducted on the specific social quality outcomes associated with SWB. When PA, NA, and LS were all entered in as predictors for perceived support, they accounted for 15.6% of the overall variance $(R^2 = .156; F(3, 209) = 12.91, p < .001)$. PA was then eliminated as a predictor in order to calculate the unique variance PA had accounted for (.7%) and this was repeated with NA (1.7%) and LS (3.2%). Subtracting all

three values of unique variance from the overall variance, the common variance was obtained, which was 10%.

For relationship satisfaction, the overall variance accounted for by all three aspects was 18.3% ($R^2 = .183$; F(3, 202) = 15.09, p < .001), where PA accounted for 1% of the unique variance, NA for .3%, and LS for 6.2%. It was found that 10.8% of the variance accounted for by PA, NA, and LS was common variance.

PA, NA, and LS accounted for 7.7% of the variance in ratings of partners' helpfulness ($R^2 = .077$; F(3, 217) = 6.05, p = .001). Some of this variance was unique to each type of SWB (PA = 1%, NA = .3%, LS = 1.4%), while 5% was variance common to all three.

SWB accounted for 5.4% of the variance in ratings of partners' upsettingness ($R^2 = .054$; F(3, 217) = 4.15, p = .007), with -.1% of that attributed to PA, 3.5% unique to NA, and 1.7% unique to LS. However, 1.9% of this variance was common to all three. PA, NA, and LS accounted for 3.8% of the overall variance in ratings of partner importance ($R^2 = .038$; F(3, 217) = 2.83, p = .039). While some of that variance was again unique to each aspect (PA = 1.4%, NA = .2%, and LS = .4%), there was also variance common to all three (1.8%).

Simple Correlations

Conducting simple correlational analyses, the similarity between partners' PA, NA, and LS was examined. Participants' PA was significantly positively correlated with their partners' PA (r = .23, p < .05). Participants' negative affect was also positively correlated with the NA of their significant others (r = .42, p < .001), as was their life satisfaction (r = .22, p < .05).

Next, partial correlations were conducted to determine whether participants' SWB was associated

with their partners' SWB when controlling for relationship quality (using the relationship quality factor score discussed above). Participants' positive affect was no longer significantly correlated with their partners' PA (r=.14, p>.05), nor was life satisfaction correlated with partners' life satisfaction (r=.09, p>.10). However, participants' negative affect was still positively correlated with partners' NA (r=.36, p<.001).

To examine whether partners may become more similar over time, the correlation between differences in partners' SWB and relationship length was examined. The difference between participants' PA, NA, and LS from that of their partners' SWB was calculated and no correlation was found between those variables and relationship length (all p's > .400). Additionally, larger differences between partners in PA, NA, and LS were not associated with the factor score of relationship quality (all p's > .10).

Participants' Self-Reported SWB and Individual Facets of Relationship Quality

Positive affect. As self-reported positive affect increased, it was associated with reporting higher perceived support from one's partner, greater relationship satisfaction, reporting one's partner as more helpful in support situations, as less upsetting in those support situations, and rating partners as more important (see Table 2). It was not associated with rating partners as unpredictable when seeking support.

Negative affect. As self-reported negative affect increased, participants reported lower perceived support from their partners and lower relationship satisfaction. Greater negative affect was also associated with indicating partners were less helpful when they sought support and were more upsetting (see Table 2).

Table	ı	Factor	loadings	of the	nartnership	quality items
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Social Quality Variables	Factor Loadings
How helpful is your partner?	.72
How upsetting is your partner?	62
How unpredictable is your partner?	24
How important is your partner to you?	.54
Perceived support from partner	.72
Relationship satisfaction	.78

Outcomes **Predictors** Perceived Relationship Helpfulness Upsettingness Unpredict-Relationship Satisfaction Support ability Importance В В SE SESEВ В SEВ SEВ SESelf-Reported SWB 2.35*** .10** -.11** .04** .61*** .04 .04 .01 .14 .54 -.02 .05 PA -.44** -.09* .04 .10** .04 .02 .02 NA .15 -1.55** .55 .04 -.03 .71*** .18 3.23*** .84 .13* .05 -.16*** -.04 .02 .05 .08 .04 LS

Table 2. Associations between self-reports of SWB and self-reported relationship outcomes

Note: $^* \le .05$. $^{**} \le .01$. $^{***} \le .001$.

Life satisfaction. As self-reported life satisfaction increased, it was associated with higher ratings of perceived support from one's partner, greater relationship satisfaction, and rating partners as more helpful in support situations and as less upsetting (see Table 2).

All SWB variables. When all three aspects of SWB were entered simultaneously as predictors, only life satisfaction continued to predict perceived support (B = .44, SE = 16, p < .010), relationship satisfaction (B = 2.32, SE = .89, p = .011), and ratings of partner upsettingness (B = -.12, SE = .05, p < .050). Ratings of partners' helpfulness, unpredictability, and partner importance were not predicted by any of the three variables when accounting for the overlap among the three aspects of SWB (all other p's > .05).

Participants' SWB and Their Partners' Relationship Outcomes

Positive affect. When participants had higher positive affect, their partners reported that the participants were more helpful in support situations. Participants' greater positive affect was also associated with their partners rating their relationship as more important (see Table 3).

Partners' positive affect was then added as a predictor as well. When controlling for the effects of the partners' positive affect (as results above found that own affect was associated with own relationship outcomes), participants' PA became significantly associated with their partners' greater relationship satisfaction (B = 1.40, SE = .52, p < .01). It remained significantly associated with partners rating the participants as more helpful (B = .08, SE = .03, p < .05) and their relationship as more important (B = .04, SE = .02, p < .05).

Negative affect. When participants had lower negative affect, their partners reported higher perceived support, higher relationship satisfaction, and rated participants as more helpful. No other significant associations were found (see Table 3).

Partners' NA was then added as a predictor. When controlling for the partners' negative affect, participants'

lower negative affect remained significantly associated with partners' reports of higher perceived support (B = .24, SE = .11, p < .05) and relationship satisfaction (B = -1.00, SE = .37, p < .01). It was no longer linked to partners' ratings of helpfulness (p > .10).

Life satisfaction. When participants had higher life satisfaction, their partners reported greater relationship satisfaction, indicated participants were more helpful and less upsetting in support situations, and they reported greater relationship importance (see Table 3).

Next, partners' LS was added as a predictor. Controlling for partners' life satisfaction, participants' life satisfaction was still significantly associated with partners' reports of greater relationship satisfaction (B = 2.69, SE = .57, p < .001), partners rating the participants as more helpful (B = .13, SE = .05, p < .01), less upsetting (B = -.13, SE = .04, p < .01), and their relationship as more important (B = .07, SE = .02, p < .001).

Discussion

A major goal of this work was to provide an analysis of how different aspects of SWB are related to many relationship outcomes. Our use of partner ratings helps avoid the confound of response propensities, which is possible when all measures come from the same individual. In addition to further ruling out that the findings are simply the result of a general positive outlook, positive affect, negative affect, and life satisfaction were also examined together. These three aspects of SWB have been infrequently examined simultaneously and such analyses therefore help fill a void within the SWB and relationship literature. It is important to understand whether they are differentially related to interpersonal outcomes or whether variance common to different forms of SWB best predicts relationship outcomes. Finally, as varying relationship outcomes were studied, this work was able to examine the association between SWB and both broad relationship quality and more specific measures of relationship quality.

Partners' Outcomes **Predictors** Perceived Relationship Helpfulness Upsettingness Unpredict-Relationship Support Satisfaction ability Importance SE В SE В В SEВ В SEВ SESESelf-Reported SWB .09** .05** -.06 .75 .53 .03 -.04 .04 -.03 .04 .02 PA .16 NA -.27 .11 -.90* .37 -.06* .03 .05 .04 .00 .04 -.02 .01 .07** 1.74** .14** -.14** -.09 .06 .02 LS .09 .19 .61 .05 .04

Table 3. Relationship between self-reported SWB and partners' relationship outcomes

Note: * ≤ .05. ** ≤ .01. *** ≤ .001

Subjective Well-Being and Relationship Outcomes

Self-reports of SWB and their relation to participants' relationship outcomes were first examined. Greater levels of positive affect and life satisfaction, and lower levels of negative affect were linked in a positive manner to the majority of our relationship outcomes. Though all three aspects were linked to relationship satisfaction, only positive affect was tied to relationship importance. This suggests that there may be something unique about positive affect, in comparison to negative affect or life satisfaction, that ties it to certain broader assessments of one's partner. It is also important to note though that none of the three aspects were related to reporting one's partner as unpredictable. This may be because partners exhibiting such behavior would be, by nature, random.

It was also found that when all three aspects of selfreported SWB were entered in as predictors of specific relationship outcomes, life satisfaction was the only aspect that continued to predict a participant's relationship outcomes. Greater life satisfaction was significantly associated with higher ratings of perceived support from partner and relationship satisfaction and lower ratings of partner upsettingness when controlling for positive and negative affect. This is noteworthy as when each predictor was entered in individually, all three were significantly associated with the above outcomes. This fits with the findings of the factor analysis, which suggested that negative affect appeared to primarily capture predictive variance common to all types of SWB studied here. In fact, our examination of unique versus common variance found that with the exception of partner upsettingness, common variance accounted for most of the explained variance for all outcomes.

More surprising is the fact that positive affect did not uniquely predict any of the six relationship variables when all three aspects were entered in as predictors, despite its well-documented link to relationship outcomes (e.g., Moore, Diener, & Tan, 2018). It may be that life satisfaction is influenced by positive and negative affect and therefore contains variance common

to them, but also contains additional information on quality of life that did not affect a person's moods and emotions. Indeed, our examination of unique versus common variance also found that life satisfaction accounted for more unique variance than PA or NA in terms of perceived support and relationship satisfaction. Why life satisfaction has unique predictive power for the quality of relationships is an important question for future research.

Subjective Well-Being and Partners' Relationship Outcomes

Next, it was examined whether participants' SWB was associated with their partners' relationship outcomes. When participants had higher positive affect, their partners rated them as more helpful and their relationship as more important. When participants had lower negative affect, their partners rated them more positively on perceived support, relationship satisfaction and helpfulness. Participants' higher life satisfaction was also related to partners reporting greater relationship satisfaction, rating participants as more helpful and less upsetting, and reporting greater relationship importance. Thus, participants' SWB is also relevant to how their partners view the relationship.

It was also important to consider the partners' SWB in this case, as one's own SWB is associated with one's own relationship outcomes. Thus, for us to be more confident that the participants' positive affect was truly associated with their partners' relationship quality, partners' own affect also needed to be controlled for in the model. Otherwise, it could be the case that a participant's higher PA was associated with his partner's higher relationship satisfaction due to a confounding variable—the partner also having high PA. Such a finding would fit with other work finding that those who are more similar are more attracted to one another and tend to have relationships of better quality (Byrne, Clore, & Smeaton, 1986; Gaunt, 2006; Luo & Klohnen 2005).

The fact that one partner's SWB predicts the other partner's ratings of relationship quality raises another interesting issue. How similar is the SWB of the two partners? If they influence each other through their relationship, then they would be expected to converge in SWB to some degree because they have a shared relationship, which is likely to influence their SWB.

When examining similarity of SWB using correlational analyses, it was found that participants' SWB was significantly similar to that of their partners' SWB. For NA, this correlation was fairly strong, while the other two converged modestly, but significantly.

The next question was whether this finding was due to relationship quality or some other factor such as assortative partnering. To examine this further, relationship quality was controlled for in the SWB associations. It was found that participants' negative affect was still strongly correlated with that of their partners' NA, suggesting a factor other than the relationship, such as assortative pairing or similar life circumstance, could be the cause. For PA and LS, the correlations dropped to nonsignificance, suggesting that the partner convergence for these two aspects of SWB may be due to the quality of the relationship.

The fact that the length of the relationship did not correlate significantly with the similarity of partners' NA, along with the finding that controlling relationship quality did not substantially lower the correlation between participants' and partners' negative affect, provides insight into why the partnering association may occur. The findings cast doubt on the explanation that it is the relationship quality itself that is the cause of this significant correlation, and also reduces the likelihood that the partners increasingly influence each other's emotions over time—emotional contagion. Instead, the NA partner association might be due to initial assortative partnering, or to some shared factor such as life circumstances.

When examining how participants' positive affect was related to their partners' relationship views, the results largely remained the same when controlling for the partners' PA. However, participants' PA was newly associated with their partners reporting greater relationship satisfaction. This fits with research finding that people higher in PA experience a myriad of relationship benefits and interact better with others (e.g., Moore, Diener, & Tan, 2018). Participants with higher PA were likely able to create and foster situations and interactions that made their partners more satisfied with the relationship.

When examining how participants' negative affect was related to their partners' relationship outcomes, the results were again similar when controlling for partners' own negative affect. Participants' lower negative affect remained linked to their partners reporting higher perceived support and relationship satisfaction. One difference was that there was no longer a link to ratings of helpfulness. This suggests that participants lower in negative affect may not necessarily be more helpful toward their partners, after controlling for the target's negative affect. It appears that when partners have lower negative affect, such partners may have a more generous view of how helpful the participants are. This fits with earlier findings in this paper that lower NA was related to viewing one's partner as more helpful.

The results for life satisfaction were unchanged when controlling for partners' own life satisfaction. Specifically, participants' life satisfaction was still significantly related to their partners' reports of greater relationship satisfaction, perceiving the participants as more helpful and less upsetting, and rating their relationship as more important. Above, it was found that when adding PA, NA, and LS in as predictors, life satisfaction was the only aspect that continued to be positively associated with relationship outcomes. The current finding further suggests that life satisfaction may be just as relevant to relationships as the more commonly studied positive affect. Additionally, for some relationship outcomes, life satisfaction accounted for more unique variance than did positive affect. This study provides further evidence that life satisfaction is uniquely associated with many better interpersonal outcomes for participants and for their partners.

Overall Findings

All three types of SWB were related to multiple relationship outcomes in a positive manner. This suggests that not only is being happier beneficial for one's own view of her relationship, it may also positively influence how her partner views the relationship too. From these results, it is evident that positive affect, negative affect, and life satisfaction—while all aspects of SWB—are not always related to these relationship quality variables in the same way, further confirming the need to study all three together

Furthermore, a general response style, such as positivity bias, cannot explain these results. For one, many of the results were similar across variables assessed from the two sources (self outcomes and partner's outcomes). Additionally, some variables produced significant patterns while others were nonsignificant. Thus, acquiescence or general positivity does not adequately explain our findings.

One important finding was that there was a substantial part of the associations predicted by common variance—in both SWB variables and in the social

outcome variables. Indeed, this general association might generally be the strongest. However, some unique predictive variance was found for life satisfaction and PA, and some different patterns for the prediction of different social outcomes.

Limitations and Future Directions

Though this study makes important contributions, there are several limitations to this work that should be pointed out as well. It should be noted that we utilized a non-random sample, pulled from a psychology department participant pool. Thus, at least half of the participants were students enrolled in psychology courses (as one student signed up and then recruited their significant other to participate as well). Additionally, the use of the undergraduate pool means that our participants were fairly young, with an average age of 23.64. Thus, though in this paper, we explore the implications of our results, generalizing these findings should be done with caution. Future works should attempt to replicate our findings with participants of more varied educational backgrounds. It should also be determined if these results are similar for those that are middle aged or elderly to ascertain whether our findings are present throughout the

There are also several future lines of inquiry that can build on the findings in our study. Is positive affect related more consistently to other overall assessments of relationship quality compared to life satisfaction and negative affect? This was found for relationship importance, but not for relationship satisfaction. Thus, more research is needed on why one outcome might be associated with positive affect but not another outcome.

Our findings are also compatible with Veenhoven's (e.g., Kainulainen & Saari, 2018) breakdown of subjective well-being. In this case, the Cantril scale would reflect overall happiness, and the two affect scales would capture feelings about life. However, we do not have a measure available of having what one desires in life. Nonetheless, our findings are compatible with Veenhoven's breakdown of SWB, especially in showing that although there is overlap between the components, there is also some degree of unique variance between them. Thus, our findings are supportive of the breakdown of SWB into components, but do not allow us to compare the two approaches, which would be a task for future research.

Our findings that participants' SWB were associated with partners' relationship outcomes raises several questions. Why were participants' life satisfaction scores (versus positive or negative affect) related to the most partner outcomes? This even remained when the

partners' life satisfaction was accounted for. Does a persons' higher life satisfaction have "carryover" capabilities, such that it is likely to influence their partners' view of the relationship too? Does life satisfaction have a larger impact on the participant's personality compared to positive or negative affect, which then influences the quality of the relationship? Another possible explanation is that life satisfaction captures other aspects of a person's quality of life, which also influences the quality of their relationships. Another interesting finding was that while participants' PA was not related to their partners' relationship satisfaction initially, it was after controlling for partners' PA. Relatedly, while participants' NA was related to their partners' ratings of helpfulness, this disappeared when controlling for the partners' NA. The link between relationship outcomes and one's own SWB and the SWB of one's partner are complex. There are many lines of future work that are still needed.

Conclusions

This study has provided new information about several issues. By examining the three aspects of SWB separately and exploring how they were related to many relationship outcomes, we have helped fill a need in the SWB literature. Many studies, when examining the link between SWB and relationships, have not studied positive affect, negative affect, and life satisfaction simultaneously. More often, studies focus on one aspect of SWB. Thus, our findings shed light on how distinct aspects of SWB are related to relationship outcomes and confirm that they can be associated with relationship quality in different ways. Importantly, it was also found that participants' SWB was related to their partners' positive relationship outcomes controlling for the partners' own SWB. Thus, not only is SWB associated with good outcomes for participants but for their partners as well. By examining self-reports of SWB and selfreports of relationship quality and self-reports of SWB and partners' relationship quality, we have contributed to a more thorough understanding of how positive affect, negative affect, and life satisfaction are related to different relationship outcomes. It appears that people high in subjective well-being not only perceive that their relationships are of higher quality, but that the partners of high subjective well-being individuals also experience higher quality social relationships. Positive affect, negative affect, and life satisfaction experienced by the participants were associated with their partners experiencing several different facets of relationship quality, even after controlling for the partners' own reported subjective well-being.

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References

- Aknin, L. B., Dunn, E. W., & Norton, M. I. (2012). Happiness runs in a circular motion: Evidence for a positive feedback loop between prosocial spending and happiness. *Journal of Happiness Studies*, 13, 347-355.
- Byrne, D., Clore, G.L., & Smeaton, G. (1986). The attraction hypothesis: Do similar attitudes affect anything? *Journal of Personality and Social Psychology*, *51*, 1167-1170.
- Campo, R. A., Uchino, B. N., Holt-Lunstad, J., Vaughn, A. A., Reblin, M., & Smith, T. W. (2009). The assessment of positivity and negativity in social networks: The reliability and validity of the social relationships index. *Journal of Community Psychology*, *37*, 471–486.
- Cantril, H. (1965). *The pattern of human concerns*. New Brunswick, NJ: Rutgers University Press.
- Carr, D., Freedman, V. A., Cornman, J. C., & Schwarz, N. (2014). Happy marriage, happy life? Marital quality and subjective well-being in later life. *Journal of Marriage and The Family*, 76(5), 930-948.
- Cohen, O., Geron, Y., & Farchi, A. (2009). Marital quality and global well-being among older adult Israeli couples in enduring marriages. *The American Journal of Family Therapy*, *37*(4), 299-317. DOI: 10.1080/01926180802405968
- Cohen, S., & Hoberman, H. M. (1983). Positive events and social supports as buffers of life change stress. *Journal of Applied Social Psychology*, 13(2), 99.
- Diener, E. (Ed.). (2009). *The science of well-being: The collected works of Ed Diener* (Vol. 37). Springer Science and Business Media.
- Diener, E., Ng, W., Harter, J., & Arora, R. (2010). Wealth and happiness across the world: Material prosperity predicts life evaluation, whereas psychosocial prosperity predicts positive feeling. *Journal of Personality and Social Psychology*, 99(1),

52-61.

- Diener E., Tay L. (2012). A scientific review of the remarkable benefits of happiness for successful and healthy living. Report of the Well-Being Working Group, Royal Government of Bhutan: Report to the United Nations General Assembly, Well-Being and Happiness: A New Development Paradigm, UN, NY.
- Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D. W., Oishi, S., & Biswas-Diener, R. (2010). New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Social Indicators Research*, 97(2), 143-156.
- Feiler, D.C. & Kleinbaum, A.M. (2015). Popularity, similarity, and the network extraversion bias. *Psychological Science*, 26, 593-603.
- Gaunt, R. (2006). Couple similarity and marital satisfaction: Are similar spouses happier? *Journal of Personality*, 74, 1401-1420.
- George, J. M. (1991). State or trait: Effects of positive mood on prosocial behaviors at work. *Journal of Applied Psychology*, 76, 299-307.
- Glenn, N., & Weaver, C. (1981). The contribution of marital happiness to global happiness. *Journal of Marriage and Family*, 43(1), 161-168. doi:10.2307/351426
- Harker, L. & Keltner, D. (2001). Expressions of positive emotion in women's college yearbook pictures and their relationship to personality and life outcomes across adulthood. *Personality Processes and Individual Differences*, 80, 112-124.
- Hertenstein , M. J., Hansel, C. A., Butts, A. M., & Hile, S. N. (2009). Smile intensity in photographs predicts divorce later in life. *Motivation and Emotion*, 33, 99-105.
- Kainulainen, S., & Saari, J. (2018). Life-satisfaction is more a matter of feeling well than having what you want. Tests of Veenhoven's theory. *International Journal of Happiness and Development*, 4(3), 209-235.
- Kamp Dush, C. M., Taylor, M. G., & Kroeger, R. A. (2008). Marital happiness and psychological well-being across the life course. *Family Relations*, *57*(2), 211-226.
- Kansky, J., Allen, J., & Diener, E. (2016). Early adolescent affect predicts beneficial later life outcomes. *Applied Psychology: Health and Well-Being*, 8, 192-212.
- Luhmann, M., Lucas, R. E., Eid, M., & Diener, E. (2013). The prospective effect of life satisfaction on life events. *Social Psychological and Personality Science*, *4*, 39-45.

Luo, S., Klohnen, E.C. (2005). Assortative mating and marital quality in newlyweds: A couple-centered approach. *Journal of Personality and Social Psychology*, 88, 304-326.

- Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin*, *131*, 803-855.
- Lyubomirsky, S., & Layous, K. (2013). How do simple positive activities increase well-being?. *Current Directions in Psychological Science*, 22(1), 57-62.
- Marks, G. N., & Fleming, N. (1999). Influences and consequences of well-being among Australian young people: 1980-1995. *Social Indicators Research*, 46, 301-323.
- Moore, S. M. (2016). Support preferences familiarity: How is it related to social support, health, and personality? (Doctoral dissertation). USA: The University of Utah.
- Moore, S. M., Diener, E., & Tan, K. (2018). Using multiple methods to more fully understand causal relations: Positive affect enhances social relationships. In E. Diener, S. Oishi, & L. Tay (Eds.), *Handbook of well-being*. Salt Lake City, UT: DEF Publishers. DOI:nobascholar.com
- Nelson, D. W. (2009). Feeling good and open-minded: The impact of positive affect on cross cultural empathic responding. *Journal of Positive Psychology*, *4*, 53-63.
- Priller, E., & Schupp, J. (2011). Social and economic characteristics of financial and blood donors in Germany. *DIW Economic Bulletin*, 1, 23-30.
- Proulx, C. M., Helms, H. M., & Buehler, C. (2007). Marital quality and personal well-being: A meta-analysis. *Journal of Marriage and Family*, 69(3), 576-593.
- Raudenbush, S. W., Bryk, A. S., Cheong, Y. F., Congdon, R., & du Toit, M. (2011). HLM 7: Hierarchical Linear and Nonlinear Modeling. Lincolnwood, IL: Scientific Software International.
- Saphire-Bernstein, S., & Taylor, S. E. (2013). Close relationships and happiness. In *Oxford handbook of happiness*.
- Shin, J., Choi, H. W., Suh, E. M., & Koo, J. (2013). Do happy teenagers become good citizens? Positive affect builds prosocial perspectives and behavior. *Korean Journal of Social and Personality Psychology*, 27, 1-21.
- Spanier, G. B. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and the Family*,

38(1), 15-28.

- Tan, K. & Tay, L. (2018). Relationships and well-being.
 In R. Biswas-Diener & E. Diener (Eds), *Noba textbook series: Psychology*. Champaign, IL: DEF publishers. DOI:nobaproject.com
- Tay, L., Tan, K., Diener, E., & Gonzalez, E. (2013). Social relations, health behaviors, and health outcomes: A survey and synthesis. *Applied Psychology: Health and Well-Being*, *5*(1), 28-78.
- Waldinger, R. J., Cohen, S., Schulz, M. S., & Crowell, J. A. (2015). Security of attachment to spouses in late life: Concurrent and prospective links with cognitive and emotional well-being. *Clinical Psychological Science*, 3(4), 516-529.
- Waugh, C. E., & Fredrickson, B. L. (2006). Nice to know you: Positive emotions, self-other overlap, and complex understanding in the formation of a new relationship. *Journal of Positive Psychology*, 1, 93-106.
- Whelan, D. C., & Zelinski, J. M. (2012). Experimental evidence that positive moods cause sociability. *Social Psychological and Personality Science*, *3*, 430-437.