



Are measures of life satisfaction linked to admiration for celebrities?

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Abstract

A pattern of research findings indicates that excessive devotion to a favorite celebrity is linked to attitudes and behaviors that are psychologically unhealthy and may predict low life satisfaction. This study examines whether four common measures of life satisfaction (i.e., curiosity, meaning in life, gratitude, and flexibility) predict admiration for celebrities in two university samples and one community sample of young adults. Our results showed significant correlations between celebrity admiration and two measures of life satisfaction (curiosity and gratitude). We also found that the predictors of life satisfaction correlate with each other in ways that are consistent with previous research in positive psychology. Our research suggests an inverse relationship between celebrity admiration and life satisfaction. In addition, the results contribute to establishing the validity of four contemporary life satisfaction measures.

Keywords Celebrity admiration · Life satisfaction · Meaning in life · Curiosity · Gratitude · Flexibility

Celebrity worship can be defined as an excessive interest in a famous person (see McCutcheon et al. 2002, 2004). Over the last 15 years, a pattern of research findings has linked excessive celebrity admiration with several psychologically unhealthy

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attitudes and behaviors. Those who self-report excessive admiration for a favorite celebrity also exhibit irresponsible attitudes (McCutcheon et al. 2014), neuroticism and its facets (Maltby et al. 2003, 2011), poor psychological well-being (Maltby et al. 2001), compulsive buying (Reeves et al. 2012), eating disorders in men (Aruguete et al. 2014), poor body image in women (Maltby et al. 2005), and a tendency to condone the stalking of celebrities (McCutcheon et al. 2006, 2016b).

The pattern of negative affect and behaviors in those who admire celebrities suggests that celebrity worship might also be associated with reduced life satisfaction. The main goal of this paper is to test whether life satisfaction is negatively associated with celebrity worship, and to determine the strength of the relationship. A secondary goal is to examine the pattern of relationships between various measures of life satisfaction, chosen from the positive psychology literature. There is evidence that persons who have high life satisfaction also tend to show psychological flexibility, meaning in life, gratitude, and curiosity (see Table 1).

According to Values in Action Theory, an outgrowth of the positive psychology movement, these are four of the best predictors of well-being and life satisfaction (see Compton and Hoffman 2013, for more detail). We believe there is sufficient evidence to hypothesize that psychological inflexibility, a relative lack of meaning in life, a lack of gratitude, and lack of curiosity are linked to excessive admiration for a favorite celebrity.

Previous studies have shown small but significant negative correlations between measures of celebrity admiration and cognitive flexibility, in both student and adult samples (Maltby et al. 2004; Martin et al. 2003). A more recent study, using a slightly different measure of flexibility, replicated the significant correlation between flexibility and celebrity admiration (McCutcheon et al. 2012). In other words, there appears to be some tendency for those who are strongly attracted to their favorite celebrity to be cognitively inflexible. Ben-Itzhak et al.

Table 1 Correlates of life satisfaction

Measure	Literature	Example
Psychological flexibility	Graham et al. (2016) Marshall and Brockman (2016)	Ability to change behavior to align with values
Meaning in life	Park et al. (2010)	Purposeful connection to something beyond the self
Gratitude	DiFabio et al. (2017) Emmons and McCullough (2003) McCullough et al. (2002) McCullough et al. (2004) Peterson et al. (2007) Wood et al. (2009)	Appreciation of help from others
Curiosity	Brdar and Kashdan (2010) Kashdan and Rottenberg (2010) Park et al. (2004) Peterson et al. (2007)	Interest in the unknown

(2014) recently developed and validated a new measure of psychological flexibility that shows improved psychometric properties when compared with previous measures. We use part of the Ben-Itzhak et al. (2014) instrument in an effort to conceptually replicate findings from the earlier research.

Meaning in life has been described as making sense out of, and feeling the significance of, one's own existence (Steger et al. 2006). There is evidence for a link between meaning in life and the tendency to admire celebrities. In one study, high celebrity worship was significantly linked to low self-concept clarity (Reeves et al. 2012), perhaps reflecting a failure to make sense of one's existence. In another study, scores on the *Purpose in Life Scale* (PIL; Crumbaugh 1968) correlated negatively with scores on a measure of celebrity admiration (McCutcheon et al. 2004), suggesting that absorption in the life of a celebrity might thwart one's own search for personal meaning. Steger et al. (2006) have criticized the *Purpose in Life Scale* on psychometric grounds, and proposed a new, shorter scale based on the idea that meaning in life should measure both the current existence of it and the continuing search for it. If this is so, we should find that those persons who have already found meaningfulness in life would not be strongly attracted to a favorite celebrity, but those who are still searching for meaningfulness will. We intend to use the Steger et al. (2006) to investigate the link between celebrity attitudes, current meaning of life, and the search for meaning.

Gratitude is defined as "a social emotion that signals our recognition of the things others have done for us" (Fox et al. 2015, p. 1491). We do not know of any study that has attempted to show a link between gratitude and the tendency to admire a favorite celebrity. However, it strikes us that the failure to show gratitude toward those who have done caring things for us is irresponsible, and some measures of irresponsibility have been linked to high scores on a measure of celebrity admiration (McCutcheon et al. 2014). As noted above, gratitude predicts life satisfaction and well-being, but celebrity worship has been shown to be associated with poorer psychological well-being (Maltby et al. 2001). Therefore, we expect that celebrity worship will be negatively associated with gratitude.

Curiosity has been defined as "the tendency to seek out and thrive on novel, complex, and challenging interactions with the world" (Kashdan and Steger 2007, p. 159). We are unaware of any study that has investigated a direct relationship between curiosity and the tendency to admire celebrities. However, research has shown that persons high on trait curiosity tend to be cognitively flexible, have a strong purpose in life, tend toward high levels of well-being (Brdar and Kashdan 2010), and low levels of anxiety and depression (Kashdan et al. 2009; Steger et al. 2008). On the other hand, persons who excessively admire celebrities tend to be cognitively inflexible (Maltby et al. 2004; Martin et al. 2003; McCutcheon et al. 2012), have a weak purpose in life (McCutcheon et al. 2004), have low levels of well-being (Maltby et al. 2001), and high levels of anxiety and depression (Maltby et al. 2001, 2011). These findings suggest that curiosity might be negatively related to celebrity admiration.

To summarize, we predict that measures of life satisfaction (specifically, cognitive flexibility, the search for meaning in life, gratitude, and curiosity) will be negatively correlated with scores on a measure of celebrity admiration. In keeping with

Values in Action Theory, we predict that these same four predictors will be significantly related to each other.

1 Method

1.1 Participants

Initially, we recruited 340 participants but excluded some from analysis due to failure to pass validity checks embedded in the survey (see Sect. 1.3), leaving a final sample of 232 participants. A power analysis using the Gpower computer program (Erdfelder et al. 1996) indicated that a sample of 84 participants would be needed to detect medium effects ($d=.3$, as reported in Cohen 1977) with 80% power using a Pearson's correlation with alpha at .05. Our final sample is nearly three times this size; therefore, the study arguably has sufficient power to detect a significant correlation.

The final sample participants ($N=232$) came from three different subsamples. The first subsample ($n=59$) was recruited through Amazon's Mechanical Turk (hereafter *MTurk*). There were 29 females and 30 males (mean age = 24.08; $SD=1.60$). Self-reported Whites ($n=28$) outnumbered Asians ($n=20$), African Americans ($n=7$), multiracials ($n=1$), and other ethnicities ($n=3$).

The second and third subsamples consisted of students from four universities in Georgia, Kentucky, Missouri, and South Dakota. From the second subsample, designated *Student Online* ($n=99$), there were 76 females and 21 males (2 did not report gender) with a mean age of 21.58 ($SD=4.57$). Self-reported Whites ($n=55$) outnumbered Asians ($n=1$), African Americans ($n=32$), multiracials ($n=7$) and other ethnicities ($n=4$).

A third subsample, designated *Student Paper-and-Pencil* ($n=74$) consisted of 52 females and 21 males (1 did not report gender). Their mean age was 21.36 ($SD=3.45$). Self-reported Whites ($n=46$) outnumbered Asians ($n=2$), African Americans ($n=17$), multiracials ($n=3$) and other ethnicities ($n=5$; 1 did not report).

1.2 Measures

Celebrity Attitude Scale (CAS). We used the 23-item version of the CAS, which has shown good psychometric properties over the course of several studies (Ashe and McCutcheon 2001; Griffith et al. 2013; Maltby et al. 2002; McCutcheon et al. 2002, 2016c). The response format for the CAS is a 5-point Likert scale with anchor points being "strongly agree" equal to 5 and "strongly disagree" equal to 1. High scores indicate a strong attraction to one's favorite celebrity.

The CAS consists of three subscales. *Entertainment-Social* (ES) is reflected in agreement with items such as, "My friends and I like to discuss what my favorite celebrity has done." A second level of celebrity worship is characterized by more *Intense-Personal* (IP) feelings, defined by items like "I have frequent thoughts about my celebrity, even when I don't want to." The third level, labeled

Borderline-Pathological (BP), is shown in items like: “If I were lucky enough to meet my favorite celebrity, and he/she asked me to do something illegal as a favor I would probably do it.” Cronbach’s alpha, a measure of the scale’s reliability showing how closely items are related, ranges from .84 to .94 (McCutcheon et al. 2004). Cronbach alpha in the present study was .96 for the total scale, which shows high internal consistency of items (alpha values above .70 are considered acceptable by most methodologists).

Curiosity and Exploration Inventory (CEI-II). We used the 10-item version of the CEI-II (Kashdan et al. 2009). The response format for the CEI-II is a 5-point Likert scale with anchor points being “extremely” and “very slightly or not at all”. High scores indicate a strong tendency to value curiosity. Factor analysis has shown that five items (e.g., “I actively seek as much information as I can in new situations”) are best viewed as “stretching,” which is described as “a continuing desire to accumulate new abilities and experiences” (p. 988). The remaining five items (e.g., “I prefer jobs that are excitingly unpredictable”) are labeled “embracing.” Persons who score high on “embracing” are those who embrace uncertainty instead of avoiding it. Across three studies, total scale Cronbach alphas ranged from .83 to .86 (Kashdan et al. 2009). Cronbach alpha for the total CEI-II in the present study was .87.

Meaning in Life Questionnaire (MLQ). The *Meaning in Life Questionnaire* consists of 10 items, with a 7-point Likert scale anchored by “absolutely untrue” and “absolutely true” (Steger et al. 2008). Factor analysis revealed a “Presence” factor consisting of five items (e.g., “I understand my life’s meaning”). High scores indicate persons who believe they have already attained their meaning in life. A “Search” factor consists of five items (e.g., “I am always looking to find my life’s purpose”). High scores indicate persons who are still looking for meaning in life. Cronbach alphas ranged from .87 for MLQ-Search to .90 for MLQ-Presence (Steger et al. 2008). Both measures were shown to be moderately stable over a 1-year period (Steger and Kashdan 2007). Cronbach alphas for the MLQ-Presence and MLQ-Search in the present study were .86 and .90 respectively.

Gratitude Questionnaire-Six (GQ-6). The GQ-6 consists of six items, two of which are reverse-scored. It is a 7-point Likert scale, anchored by “strongly disagree” at 1, and “strongly agree” at 7. A sample item is “I am grateful to a wide variety of people.” High scores indicate high gratitude. McCullough et al. (2002) showed a Cronbach alpha of .82. Cronbach alpha in the present study was .84.

Psychological Flexibility Questionnaire Subscale (PFQ Flexible). This is a 5-item Likert subscale from the *Psychological Flexibility Questionnaire* ranging from “not at all” to “very much.” Characterization of the self as flexible (PFQ-Flexible) contains items such as “I feel open to changes”. The PFQ total score has a Cronbach alpha of .92 (Ben-Itzhak et al. 2014). Cronbach alpha for the PFQ Flexible in the present study was .85.

Validity checks. To minimize the likelihood of persons who were not seriously responding to our survey from contaminating our data analysis we inserted validity checks. Two non-scored items added to the *Psychological Flexibility Questionnaire* (PFQ; Ben-Itzhak et al. 2014), were phrased as opposites of existing items. For example, one existing item read, “I do not feel ready to accept future changes”. We added an item that read, “I feel ready to accept future changes.” If respondents

agreed to both contradictory items, we assumed they were not responding thoughtfully to the PFQ and we excluded them from the data analysis. Similarly, on the *Curiosity and Exploration Inventory-II* (CEI-II; Kashdan et al. 2009), we added two non-scored items, which were almost exact opposites of existing items. For example, one existing item read, “I am always looking for experiences that challenge how I think about myself and the world”. We added an additional item, “I rarely look for experiences that challenge how I think about myself and the world”. If respondents agreed to both contradictory items, we assumed they were not responding thoughtfully to the CEI-II and excluded them from the data analysis. Finally, we excluded respondents that completed the entire survey in less than 150 s, our rationale being that it would be impossible to meaningfully and thoughtfully respond to such a large body of items in less than two-and-a-half minutes. Of the originally recruited respondents, we deleted 51 from the MTurk subsample, 30 from the Student Online sample and 27 from the Student Paper-and-Pencil subsample.

1.3 Procedure

The MTurk sample filled out the survey programmed through Qualtrics to present the various scales in randomly selected order to minimize the possibility of a systematic order effect. The MTurk workers were paid 75 cents each.

Both student samples were recruited from psychology classes at their respective universities after consent was obtained from each Institutional Review Board. The Student Online sample completed the survey programmed through Qualtrics, just as the MTurk group did. The Student Paper-and-Pencil group filled out the paper copies of the survey, with scales presented in random orders. Both student samples were awarded extra credit equaling about 1% of their final grade.

2 Results

Table 2 shows mean scores for each subsample. The data were screened for outliers and the homogeneity of variances assumption was met for each test. One-way ANOVAs with Tukey post hoc comparisons showed significant differences between subsamples on some measures. These differences are likely accounted for by demographic variations among subsamples.

As shown in Table 3, total CAS scores correlated significantly with GQ-6 gratitude scores ($r(222) = -.22, p < .01$), as predicted. Total CAS scores also correlated significantly with CEI-II Embrace ($r(220) = .24, p < .001$). However, scores on the CAS did not correlate significantly with CEI-II Total, CEI-II Stretch, MLQ Presence, MLQ Search, and PFQ Flexible.

Table 3 reveals that the four variables thought to provide the cornerstone of Values in Action theory did relate to each other in ways consistent with the theory. MLQ Presence had a significant negative correlation ($r(228) = -.31, p < .001$) with MLQ Search. MLQ Presence also correlated with CEI II Stretch

Table 2 Means, standard deviations, F values, and ranges for the scales used

	Means and SDs-Mturk	Means and SDs-student online	Means and SDs-student paper and pencil	F value	Possible range
CAS Total	64.40 (20.23)	52.11 (15.99)	53.44 (16.23)	9.78*** ^a	23–115
CAS ES	25.78 (6.76)	20.87 (6.39)	22.08 (6.23)	10.97*** ^a	10–50
CAS IP	21.12 (9.29)	16.93 (6.73)	16.74 (7.00)	6.91*** ^a	9–45
CAS BP	10.15 (3.95)	8.12 (2.94)	8.00 (3.12)	8.84*** ^a	4–20
CEI-II total	31.86 (7.63)	34.48 (6.89)	36.16 (6.37)	6.30*** ^b	10–50
CEI-II stretching	14.36 (3.03)	14.80 (2.86)	15.59 (2.61)	3.36	5–25
CEI-II embracing	12.98 (4.25)	14.15 (3.43)	14.76 (3.06)	4.13	5–25
MLQ presence	24.46 (6.97)	25.92 (5.77)	25.05 (6.21)	1.06	5–35
MLQ search	22.91 (8.63)	24.98 (6.38)	26.05 (6.34)	3.32	5–35
PFQ flexible	21.51 (4.75)	21.48 (4.06)	20.93 (4.17)	.60	5–30
GQ-6	32.03 (6.53)	36.43 (6.08)	37.22 (4.57)	15.02*** ^a	6–42

We used a conservative standard of significance ($*p < .01$, $**p < .001$) to compensate for the large number of statistical tests

^aMturk sample differs significantly from student online and student paper and pencil samples (Tukey)

^bMturk sample differs significantly from student paper and pencil sample (Tukey)

Table 3 Correlation matrix for variables used in the study

	1	2	3	4	5	6	7	8	9	10	11
1. CAS total	–	.94**	.91**	.87**	.05	.05	.24**	–.07	.12	.04	–.22*
2. CAS ES		–	.74**	.77**	.06	.09	.19	–.06	.07	.07	–.13
3. CAS IP			–	.75**	.02	.01	.25**	–.06	.13	–.01	–.26**
4. CAS BP				–	.00	–.03	.18	–.07	.07	–.02	–.26**
5. CEI-II total					–	.87**	.86**	.29**	.24**	.62**	.34**
6. CEI-II stretch						–	.58**	.27**	.14	.63**	.32**
7. CEI-II embrace							–	.16	.30**	.42**	.13
8. MLQ presence								–	–.31**	.43**	.45**
9. MLQ search									–	–.04	.01
10. PFQ flexible										–	.39**
11. GQ-6											–

We used a conservative standard of significance ($*p < .01$, $**p < .001$) to compensate for the large number of statistical tests

($r(226) = .27$, $p < .001$) and with GQ-6 gratitude ($r(226) = .45$ ($p < .001$)). PFQ Flexible correlated significantly with CEI II Stretch ($r(226) = .63$, $p < .001$), CEI II Embrace ($r(225) = .42$, $p < .001$), GQ-6 gratitude ($r(226) = .39$, $p < .001$), and MLQ Presence ($r(225) = .43$, $p < .001$). Lastly, GQ-6 gratitude correlated with CEI II Stretch, $r(226) = .32$, $p < .001$.

3 Discussion

We hypothesized that celebrity admiration would be negatively correlated with predictors of life satisfaction (i.e., curiosity, meaning in life, gratitude, and flexibility). As predicted, admiration for celebrities was associated with lower self-reported gratitude. However, we were surprised to find that celebrity admiration was also positively correlated with one measure of curiosity. As expected, the pattern of positive associations between measures of curiosity, meaning in life, gratitude, and flexibility supports Values in Action Theory (Compton and Hoffman 2013). Despite some limitations detailed below, our results support previous research (Maltby et al. 2001, 2003, 2011; McCutcheon et al. 2014) suggesting that interest in celebrities is associated with poorer life satisfaction.

Correlations between celebrity admiration measures and gratitude scores were significant in the predicted direction. That is, lack of gratitude was associated with a tendency to excessively admire one's favorite celebrity. This finding supports previous research showing that celebrity admiration tends to be associated with psychologically unhealthy attitudes (Maltby et al. 2001, 2003, 2011; McCutcheon et al. 2014). Lack of gratitude toward those who have helped a person may indicate lack of responsibility, which has previously been associated with celebrity admiration (McCutcheon et al. 2014). Correlations between celebrity admiration and gratitude were stronger with the two more problematic subscales of the CAS. In other words, those who are more obsessed or pathologically addicted to a favorite celebrity are more likely to show a lack of gratitude to those who have helped them.

We also found an unexpected positive relationship between celebrity admiration and a measure of curiosity (CEI-II Embrace). This result suggests that persons who greatly admire celebrities also tend to embrace the unexpected and uncertain events of daily life. While embracing the unexpected may appear to be a positive trait, it may also indicate a lack of planning for the future. If this is the case, the result may fit with previously obtained results showing a link between excessive celebrity admiration and irresponsible attitudes and behaviors (McCutcheon et al. 2014). We suggest future research investigate the link between irresponsibility and CEI-II Embrace scores to determine whether or not this claim is true.

The non-significant correlations between celebrity admiration and meaning in life were surprising, given a previous finding showing a moderate correlation between celebrity admiration and purpose in life (McCutcheon et al. 2004). This can be partially explained by the fact that the previous result was based on a measure of having found purpose in life. The measures we used investigated both the attainment of meaning and the continuing search for it. It should be noted that, while non-significant, all of the correlation coefficients were in the predicted direction, with celebrity admiration being positively associated with a search for meaning in life and negatively associated with the presence of meaning in life.

The correlation between celebrity admiration scores and psychological flexibility was non-significant. That was unexpected in light of previous research

showing that flexibility tended to decrease as celebrity admiration scores increased (Maltby et al. 2004; Martin et al. 2003; McCutcheon et al. 2012). The previously used measure focused on cognitive flexibility, whereas the measure used in the present study focused on a more general flexibility. We recommend that future research investigate the similarities and differences between the two measures.

The pattern of relationships among the measures of positive psychology generally supports existing theory and research. The presence of Meaning in Life should be negatively related to a search for Meaning in Life. Why search for something you have already found? In fact, our results consistently showed negative correlations between the two, as did Steger et al. (2006, 2008).

Flexibility correlated with curiosity, gratitude, and the presence of meaning in life, as it has in previous research (Brdar and Kashdan 2010; Kashdan and Rottenberg 2010; Park et al. 2004, 2010; Peterson et al. 2007; DiFabio et al. 2017; Emmons and McCullough 2003; McCullough et al. 2002, 2004; Peterson et al. 2007; Wood et al. 2009; Park et al. 2010). Gratitude, which has been found to correlate positively with life satisfaction (McCullough et al. 2002), correlated positively with the presence of Meaning in Life in our study. We also found a positive link between Gratitude and Curiosity Stretch (but not Curiosity Embrace). Furthermore, we found a positive correlation between the presence of Meaning in Life and Curiosity Stretch, but not Curiosity Embrace. This finding replicated that of Kashdan et al. (2009), and further suggests that high scores on Curiosity Stretch may be more consistent with positive psychology than high scores on Curiosity Embrace. Further research is needed to confirm this suggestion.

Limitations of the present study include the lack of ability to generalize our results to older persons, given that our participants were mostly between their late teens and mid-twenties. Our MTurk subsample appeared to respond differently from the student subsamples on some scales, especially those measuring admiration of celebrities. This may be accounted for by the ethnic differences in the subsamples (the MTurk sample had a higher proportion of Asians than the American college student samples). Ethnic differences in celebrity admiration have been shown in previous research (McCutcheon et al. 2016a). Finally, we excluded many respondents from analysis due to failure on our validity checks, but this could be viewed positively, since it reduced the number of participants who responded carelessly. As a result, reliability measures for our scales tended to be relatively high.

In summary, our results provided support for the hypothesis that excessive celebrity admiration is negatively related to life satisfaction. Moreover, our results show strong connections among four measures of life satisfaction that are consistent with previous research and theory related to the positive psychology movement (Compton and Hoffman 2013).

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