

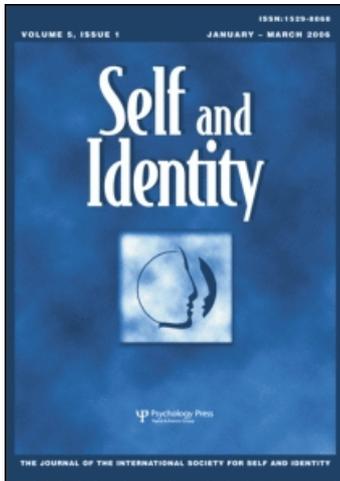
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### Self-concept Clarity Mediates the Relation between Stress and Subjective Well-being

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# Self-concept Clarity Mediates the Relation between Stress and Subjective Well-being

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*Three studies tested the extent to which self-concept clarity mediates the relation between different types of stressful life events and subjective well-being, independently of neuroticism. In Study 1 (N = 292), self-concept clarity fully mediated the relation between stress from various sources (e.g., work, social rejection) and subjective well-being. In Study 2 (N = 127), self-concept clarity partially mediated the relation between meaninglessness (i.e., perceptions of life as meaningless) and subjective well-being. In Study 3 (N = 78), self-concept clarity partially mediated the relation between self-discontinuity (i.e., perceptions of discontinuity between past and present self) and subjective well-being. Across studies, an alternative mediation model was unsupported. The findings provide an impetus for theoretical and empirical advancements in understanding how self-concept clarity may play a role in the impact of stress on subjective well-being.*

**Keywords:** Self; Self-concept clarity; Existential threat; Stress; Well-being.

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Successful coping with stressful life events is crucial to the maintenance of subjective well-being (Diener, Suh, Lucas, & Smith, 1999). Successful coping is facilitated by both interpersonal factors or external resources, such as social support (Sarason, Sarason, & Pierce, 1990; Zhou, Sedikides, Wildschut, & Gao, 2008), and intrapersonal factors or internal resources, such as personality characteristics and psychological states (Taylor, 1995; Watson, David, & Suls, 1999). One such intrapersonal resource is self-concept clarity, the focus of this article.

Self-concept clarity has been conceptualized both as a trait and a state (Campbell et al., 1996). It refers to “the extent to which self-beliefs are clearly and confidently defined” (Campbell et al., 1996, p. 141). Indeed, even though self-concept clarity evidences remarkable temporal stability (i.e., for a period of up to ten years; Conley, 1984), it also fluctuates with environmental influences (Nezlek & Plesko, 2001). Self-concept clarity is inversely related to indices of psychological distress (e.g., anxiety, negative affect, rumination) and is positively related to subjective well-being (Campbell et al., 1996; De Cremer & Sedikides, 2005; Lavalley & Campbell, 1995; Slotter, Gardner, & Finkel, 2010). Despite this consistent pattern of relations, research has yet to consider whether self-concept clarity plays a role in the trajectory by which stress impacts well-being. Does self-concept clarity mediate the relation between stress and subjective well-being (e.g., life satisfaction)? We hypothesized so, and tested this hypothesis in three studies.

### *Psychological Stress and Self-concept Clarity*

Clearly, stress has an adverse impact on subjective well-being (Diener et al., 1999; Tetrick & LaRocco, 1987). That stress may also tax the self-system provides a potential way to understand the processes underlying the deleterious effect of stress on well-being. In particular, stress may undermine self-clarity (or precipitate self-confusion) for any of several reasons. Stressful life events are not only painful. They may also be unexpected and surprising because, in part, they challenge one’s daily routine, assumptions about relationships, psychological stability, and even one’s world view. Such events pose multiple and frequently conflicting demands on the self-system, which requires adaptation and reprioritization of goals. These processes may in turn weaken not only one’s sense of positive identity (Alicke & Sedikides, 2009; Schlenker, 1985, 1987; Sedikides & Strube, 1997), but also one’s sense of identity coherence (Berzonsky, 1992; Sedikides, De Cremer, Hart, & Brebels, 2010; Smith, Wethington, & Zhan, 1996). For example, being accused of laziness at work or being socially rejected from valued relationships may thwart one’s self-beliefs and challenge their clarity (e.g., “I thought I was performing well but my boss suggests otherwise,” “I thought I was getting along with others”). Similarly, insofar as clarity in one’s self-concept draws from a sense of life as orderly, purposeful, and coherent, other types of stress, such as confrontation with an event that makes life feel meaningless or highlights one’s discontinuity with one’s past, may also work to undercut self-concept clarity and create self-concept confusion (Campbell, Assanand, & Di Paula, 2003; Smith & Dust, 2006; Smith et al., 1996).

### *Self-concept Clarity and Psychological Well-being*

There is compelling evidence that self-concept clarity is associated with psychological well-being (Campbell et al., 1996; De Cremer & Sedikides, 2005; Lavalley & Campbell, 1995; Slotter et al., 2010). Although the present research did not examine

how self-concept clarity enhances well-being, previous theory and research points to two important mechanisms. First, self-concept clarity (compared to self-concept confusion) should facilitate self-regulation processes that involve a comparison between the current self and “goal selves,” that is, representations of the self a person wishes to become or avoid becoming (Carver & Scheier, 1998; Fleury, Sedikides, & Donovan, 2002; Higgins, 1987; Markus & Nurius, 1986; Ryan & Deci, 2000). Indeed, research indicates that self-concept clarity facilitates optimal psychological functioning by enabling persons to link sources of stress to components of the self-concept, increasing perceived control over components of the self-concept, and promoting effective self-regulation (Gramzow, Sedikides, Panter, & Insko, 2000; McConnell & Strain, 2007; Showers, 1992; Thoits, 1983). Second, recent work by Lewandowski, Nardone, and Raines (2009) showed that an experimental manipulation of self-concept clarity caused increased relationship satisfaction and commitment. Furthermore, these salutary effects of self-concept clarity on relationship functioning were mediated by increased self-esteem and inclusion of the partner in the self. These findings are consistent with the idea that self-concept clarity (compared to self-concept confusion) “provides a more stable frame of reference for interacting with and assimilating the external environment” (Lewandowski et al., p. 13). To the extent that stress perturbs self-concept clarity, stress should impair its ability to function as an effective coping resource, resulting in reduced well-being.

#### *Neuroticism and Self-concept Clarity*

The hypothesized centrality of self-concept clarity, however, also raises alternative explanations for its postulated role in the connection between stress and well-being. A primary candidate is the construct of neuroticism. Self-concept clarity is correlated negatively with neuroticism (Lavalley & Campbell, 1995), which is defined as a predisposition to experience and report negative affect (McCrae, 1990; Neiss, Stevenson, Legrand, Iacono, & Sedikides, 2009). Neurotic individuals are more likely than their counterparts to experience and report negative affect in the presence of stress (Watson & Pennebaker, 1989), and are more likely to implement ineffective coping strategies when attempting to regulate stress (Gunthert, Cohen, & Armeli, 1999).

These processes imply a positive relation between stress and neuroticism, and a negative relation between neuroticism and subjective well-being (i.e., life satisfaction); indeed, this is often the case (Steel, Schmidt, & Shultz, 2008; Watson & Pennebaker, 1989). Stress may exacerbate the manifestation of neuroticism, which in turn will lower subjective well-being. This raises the important question of whether the postulated association between self-concept clarity and well-being is confounded by or is independent of neuroticism. We reasoned that a conclusive test of the hypothesis that self-concept clarity mediates the relation between stress and subjective well-being would necessitate statistically controlling for neuroticism, too, and we did so.

#### *Overview of the Present Research*

Our research framework concerned how stressful events (in their many manifestations) impact on self-concept clarity and how, in turn, self-concept clarity impacts on subjective well-being. Psychological stress may adversely influence well-being by negatively impacting on self-concept clarity. Stressful life events tend to be

unexpected, disrupt one's daily routine and stability, challenge one's assumptions about social relationships, and dent one's world view. As such, stressful life events challenge the self-system, require it to adapt or change, and weaken self-concept clarity. Weakened self-concept clarity will, in turn, impair subjective well-being (Campbell et al., 1996; De Cremer & Sedikides, 2005; Lavalley & Campbell, 1995; Slotter et al., 2010).

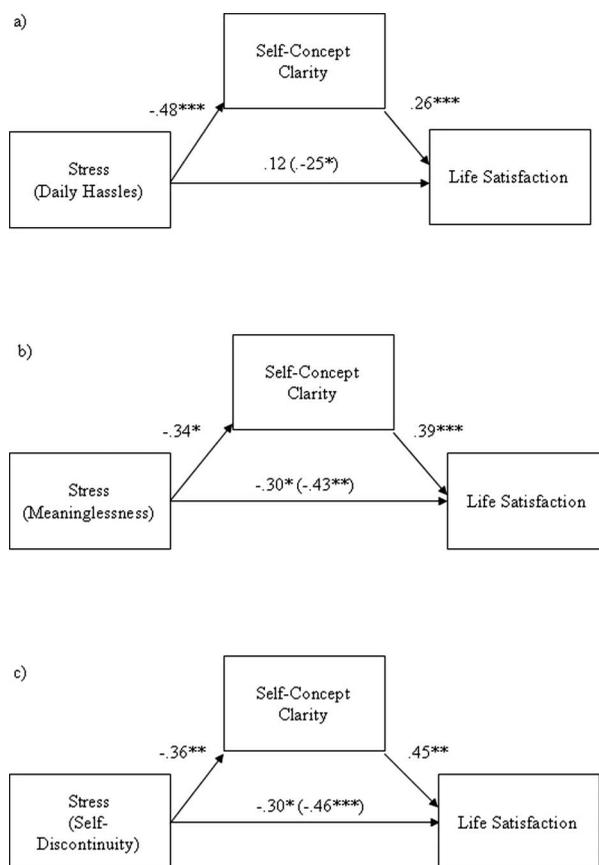
The present research, then, sought to explore the potential mediating role of self-concept clarity in the relation between stress and subjective well-being. To provide convergent evidence on the viability of this mediating influence, we considered three different contexts and types of stress. In Study 1, we examined whether self-concept clarity mediates the relation between stress stemming from assorted stressful life events and subjective well-being. In Study 2, we examined whether self-concept clarity mediates the relation between another type of stress, meaninglessness, and subjective well-being. Finally, in Study 3, we examined whether self-concept clarity mediates the relation between yet another type of stress, self-discontinuity, and subjective well-being. Self-discontinuity refers to the extent to which individuals perceive discontinuity between their past and present.

The model outlined above is only one of several hypothetical orderings of the variables in question. Another plausible model is based on theorizing by Bolger and Zuckerman (1995), who suggested that personality traits impact on psychological outcomes through stress appraisal and coping. We adapted this framework to examine, and rule out, the possibility that an alternative model might also explain the anticipated mediation effects. Accordingly, we examined whether the positive relation between subjective well-being and self-concept clarity could depend, in part, on the stress produced by different intrapersonal and interpersonal stressors. Hence, in each of the three studies, we tested an alternative (i.e., reverse mediation) model: subjective well-being impacts on self-concept clarity through different kinds of psychological stress, controlling for neuroticism.

### *Data Analytic Strategy*

To test the significance of the total indirect effect of stress on subjective well-being and the specific indirect effect of self-concept clarity, we implemented the mediation technique introduced by Preacher and Hayes (2004). This technique estimates the specific indirect effects for one or more mediators with the option of including control variables (in our case, neuroticism). This technique also performs a nonparametric bootstrapping procedure that does not rely on the assumption that a model's total and indirect effects are distributed normally (Preacher & Hayes, 2008). Each indirect effect reported is based on 1000 bootstrap re-samples with a 99% bias corrected confidence interval (BCCI).

In each study, we conducted three analyses. The first analysis tested the basic mediation model: the extent to which self-concept clarity mediates the relation between psychological stress and subjective well-being. We illustrate this model in Figure 1, panels a, b, and c. The second analysis tested the same mediation model while statistically controlling for neuroticism. Finally, the third analysis tested an alternative model in which psychological stress mediates the relation between subjective well-being and self-concept clarity, again controlling for neuroticism. We illustrate this model in Figure 2. We report the results of each study in this manner.



**FIGURE 1** Path models depicting mediation of the relation between various stressors and subjective well-being by self-concept clarity.

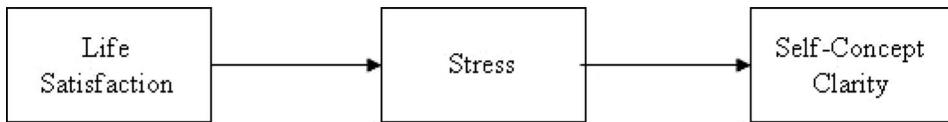
## Study 1

We were concerned with the associations among stress, self-concept clarity, subjective well-being, as well as neuroticism. We operationalized stress in terms of stressful life events (i.e., social/cultural stress, time-related stress, social-rejection stress, victimization stress, work stress, financial stress). In accordance with past research, we expected stress to be negatively correlated with self-concept clarity and subjective well-being, and to be positively correlated with neuroticism. Also in accordance with past research, we expected self-concept clarity to be positively correlated with subjective well-being, and for neuroticism to be negatively correlated with both of these variables. Importantly, we hypothesized that self-concept clarity would mediate the association between stress and subjective well-being, independently of neuroticism.

### Method

#### Participants

Participants were 292 (221 women, 71 men) volunteers via the internet. (Separate mediational analyses for female and male participants revealed very similar result patterns.) Age ranged from 18 to 59 years ( $M = 23.41$ ,  $SD = 7.85$ ). The most



**FIGURE 2** Path model depicting mediation of the relation between subjective well-being and self-concept clarity by stress.

frequently named countries of residence were the UK (49.7%), the US (45.2%), and Canada (2.4%).

### ***Procedure and Measures***

The study was advertised on a departmental intranet and on social networking web sites (e.g., Myspace.com). Volunteers clicked on a link in their web browser, which began the study. Ethical protocols for psychological research were followed in this study (and in all subsequent studies). Participants reported their age, gender, and country of residence. Next, they completed measures of stress (i.e., stressful life events from various sources), self-concept clarity, neuroticism, and subjective well-being. All scales showed good reliability. In Table 1, we provide descriptive statistics, correlations, and Cronbach's alpha reliability estimates for each scale.

*Stress.* We assessed stress with The Survey of Recent Life Experiences (RLE; Kohn & Macdonald, 1992), a 41-item measure of the degree to which individuals experienced each of six types of stress within the past month: social/cultural stress (e.g., "Being let down or disappointed by friends"), time-related stress (e.g., "Too many things to do at once"), social-rejection stress (e.g., "Social isolation"), victimization stress (e.g., "Being taken advantage of"), work stress (e.g., "Dissatisfaction with work"), and financial stress (e.g., "Cash flow difficulties"). Participants responded to these items on the following 5-point scale: "How stressful was this for you?" (1 = *not at all*, 2 = *a little bit*, 3 = *moderately*, 4 = *quite a bit*, 5 = *a lot*). Higher scores reflect higher levels of stress.

*Self-concept clarity.* We assessed self-concept clarity with the Self-concept Clarity Scale (Campbell et al., 1996), a 12-item measure of the degree to which individuals rate a clear notion of who they are. An example item is: "In general, I have a clear sense of who I am and what I am." Participants responded to the items on a 6-point scale (1 = *disagree very much*, 6 = *agree very much*). Ten of the 12 items were reversed-scored. Higher scores reflect higher self-concept clarity.

*Neuroticism.* We assessed neuroticism with the two neuroticism items of the Ten Item Personality Inventory (Gosling, Rentfrow, & Swann, 2003): "I see myself as anxious, easily upset" and "I see myself as calm, emotionally stable" (reversed scored). Participants responded to the items on a 7-point scale (1 = *disagree strongly*, 7 = *agree strongly*). Higher scores reflect higher neuroticism.

*Subjective well-being.* We assessed subjective well-being with the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985), a 5-item measure of individuals' global appraisal of their life satisfaction. An example item is: "I am satisfied with my life." Participants responded to the items on a 6-point scale (1 = *strongly disagree*, 6 = *strongly agree*). Higher scores reflect higher life satisfaction.

**TABLE 1** Descriptive Statistics, Zero-order Correlations, and Cronbach's Alpha Reliability Estimates

Study	Variable	Mean (SD)	RLE	NE	SCC	SWL
1	RLE	2.57 (0.66)	<i>.94</i>			
	NE	3.57 (1.54)	.39***	<i>.71</i>		
	SCC	3.67 (1.03)	-.43***	-.42***	<i>.90</i>	
	SWL	3.81 (1.11)	-.31***	-.45***	.41***	<i>.89</i>
			NMS	NE	SCC	SWL
2	NMS	1.37 (0.48)	<i>.92</i>			
	NE	2.62 (0.71)	.19*	<i>.80</i>		
	SCC	3.22 (0.81)	-.26**	-.36***	<i>.89</i>	
	SWL	3.66 (0.85)	-.29**	-.27**	.46***	<i>.82</i>
			SSCI	NE	SCC	SWL
3	SSCI	2.79 (0.75)	<i>.81</i>			
	NE	2.78 (0.73)	.18 <sup>†</sup>	<i>.79</i>		
	SCC	3.08 (0.79)	-.43***	-.58***	<i>.88</i>	
	SWL	3.57 (0.84)	-.43***	-.09	.47***	<i>.83</i>

Notes: RLE = Recent Life Experiences; NE = Neuroticism; SCC = Self-concept Clarity; SWL = Satisfaction with Life; NMS = No Meaning Scale; SSCI = Southampton Self-Continuity Index. Cronbach's alpha reliability estimates are italicized in the diagonal of the correlation matrix. \*\*\* $p < .0005$ ; \*\* $p < .005$ ; \* $p < .05$ ; <sup>†</sup> $p = .08$ .

### Results and Discussion

The obtained associations among variables were consistent with past research (Table 1). Stress was negatively related to self-concept clarity and life satisfaction, and was positively related to neuroticism. Self-concept clarity was positively related to life satisfaction, whereas neuroticism was negatively related to it. Finally, self-concept clarity and neuroticism were negatively correlated.

Self-concept clarity by itself partially mediated the relation between stress and life satisfaction. Self-concept clarity accounted for a significant portion of the shared variance between stress and life satisfaction. The specific indirect effects revealed that self-concept clarity was a significant mediator, with a point estimate of  $-.24$  and a 99% Bias Corrected Confidence Interval (BCCI) from  $-0.41$  to  $-0.10$ .

We tested the same mediation model, controlling for neuroticism. Self-concept clarity fully mediated the relation between stress and life satisfaction (i.e., the association between stress and life satisfaction became non-significant; Table 2; Figure 1, panel a), with a point estimate of  $-.12$ , and a 99% BCCI from  $-0.25$  to  $-0.03$ . Higher stress was associated with lower self-concept clarity, which in turn was associated with lower subjective well-being. This evidence for the mediating role of self-concept clarity was obtained when no covariates were considered, and then again, independently of neuroticism.

There was no evidence for the reverse mediation model depicted in Figure 2. The indirect effect of life satisfaction on self-concept clarity via stressful life

events was weak with a point estimate of .04 and a 99% BCCI that passed through zero, and hence was non-significant. Furthermore, the direct effect of life satisfaction on self-concept clarity remained statistically significant. In all, the results provided preliminary support to the hypothesis that self-concept clarity mediates the relation between stress and well-being, and it does so independently of neuroticism.

Finally, we conducted supplementary analyses to explore whether self-concept clarity would mediate the relations between specific types of stress (as assessed by the RLE) and life satisfaction. Self-concept clarity partially or fully mediated the relations between all six types of stress assessed by the RLE and life satisfaction, controlling for neuroticism.

## Study 2

In Study 2, we were concerned with the associations among meaninglessness, self-concept clarity, subjective well-being, as well as neuroticism. Meaninglessness could initially be a response to a stressful situation (e.g., divorce, cancer diagnosis), subsequently becoming a secondary stressor or challenge on its own for one's daily functioning and adaptation. Meaninglessness has long been viewed as the root of psychopathology (Reker, 2000), especially depression (Phillips, 1980) and anxiety (Ruffin, 1984). Also, meaninglessness has been associated with lower subjective well-being (Shek, 1992; Yalom, 1980).

We expected meaninglessness to correlate negatively with self-concept clarity and subjective well-being, and to correlate positively with neuroticism. We also expected self-concept clarity to correlate positively with subjective well-being, and for neuroticism to correlate negatively with it. Importantly, we hypothesized that self-concept clarity would mediate the relation between meaninglessness and subjective well-being, and that this effect would occur independently of neuroticism.

**TABLE 2** Path Coefficients for the Relation between Stress and Life Satisfaction through Self-concept Clarity, Controlling for Neuroticism

Study	Path	<i>b</i> ( <i>SE</i> )	<i>t</i>
1	a	-0.48 (0.08)	-5.78***
	b	0.26 (0.06)	4.15***
	c	-0.25 (0.09)	-2.71*
	c'	-0.12 (0.09)	-1.30
2	a	-0.34 (0.14)	-2.39*
	b	0.39 (0.09)	4.42***
	c	-0.43 (0.15)	-2.88**
	c'	-0.30 (0.14)	-2.08*
3	a	-0.36 (0.10)	-3.61**
	b	0.45 (0.12)	3.57**
	c	-0.46 (0.11)	-3.98***
	c'	-0.30 (0.11)	-2.57*

*Note:* a = Stress to Mediators; b = Mediators to DV; c = Total effect of Stress on DV; c' = Direct effect of Stress on DV. \*\*\* $p < .0005$ ; \*\* $p < .005$ ; \* $p < .05$ .

## Method

### Participants

One hundred twenty-seven (65 men, 62 women) University of Missouri undergraduates participated for introductory psychology course credit. Their age ranged from 17 to 41 years ( $M = 18.96$ ,  $SD = 2.15$  years).

### Procedure and Measures

Participants reported to the laboratory and completed a booklet containing measures of meaninglessness, self-concept clarity, neuroticism, and subjective well-being. All scales showed good reliability (Table 1).

*Meaninglessness.* We assessed this stress with the No Meaning Scale (Kunzendorf & Maguire, 1995), a 16-item measure of the degree to which individuals perceive life as meaningless (see Routledge, Arndt, Sedikides, & Wildschut, 2008; Simon, Arndt, Greenberg, Solomon, & Pyszczynski, 1998, for implementations of this scale). Example items include “Life has no meaning or purpose” and “All strivings in life are futile and absurd.” Participants responded to items on a 4-point scale (1 = *strongly disagree*, 4 = *strongly agree*). Higher scores reflected more meaninglessness.

*Self-concept clarity.* We assessed this construct with the Self-concept Clarity Scale, as in Study 1.

*Neuroticism.* We assessed neuroticism with the 8-item version of the Neuroticism subscale of The Big Five Personality Inventory (Benet-Martinez & John, 1998). Three items were reverse coded (e.g., “I see myself as emotionally stable, not easily upset”). Participants responded to items on a 5-point scale (1 = *disagree strongly*, 5 = *agree strongly*). Higher scores reflected higher neuroticism.

*Subjective well-being.* We assessed this construct with the Satisfaction with Life Scale, as in Study 1, except that we used a 5-point response scale (1 = *disagree strongly*, 5 = *agree strongly*).

## Results and Discussion

The associations among variables were consistent with our predictions, and they conceptually replicate the findings of Study 1 (Table 1). In particular, meaninglessness was negatively related to self-concept clarity and life satisfaction, and was positively related to neuroticism. Moreover, self-concept clarity was positively related to life satisfaction, whereas neuroticism was negatively related to it. Finally, self-concept clarity and neuroticism were negatively correlated.

Self-concept clarity partially mediated the relation between meaninglessness and life satisfaction, as it accounted for a significant portion of the shared variance between meaninglessness and life satisfaction. The specific indirect effect revealed that self-concept clarity was a significant mediator, with a point estimate of  $-.19$  and a 99% BCCI from  $-0.47$  to  $-0.08$ .

We tested the same mediation model, controlling for neuroticism (Table 2; Figure 1, panel b). Self-concept clarity partially mediated the relation between meaninglessness and life satisfaction, with an indirect effect estimate of  $-.14$  and a 99%

BCCI from  $-0.44$  to  $-0.01$ . Hence, this effect occurred independently of neuroticism.

Finally, the reverse mediation model was again unsupported. The indirect effect of life satisfaction on self-concept clarity via meaninglessness was weak and unreliable with a point estimate of .02 and a 99% BCCI that passed through zero. In all, Study 2 results provide further support for the idea that self-concept clarity mediates the link between stress (i.e., meaninglessness) and subjective well-being.

### Study 3

In Study 3, we were concerned with the associations among self-discontinuity, self-concept clarity, subjective well-being, as well as neuroticism. Self-discontinuity refers to the extent to which individuals perceive lack of continuity between their past and present (Sedikides, Wildschut, Gaertner, Routledge, & Arndt, 2008). Self-discontinuity is associated with psychological maladjustment, such as negative affect, anxiety, weakened group identification, alienation, psychopathology, and even suicide (Chandler, Lalonde, Sokol, & Hallett, 2003; Lampinen, Odegard, & Leding, 2004; Sani, 2005). Needless to say, self-discontinuity is inversely related to subjective well-being (Sani, Bowe, & Herrera, 2008; Sedikides et al., 2008). We reasoned that self-discontinuity might be a reaction to primary stressors that provoke temporal comparisons between past and present selves. A stressor that provokes a person to question or wonder how the self has changed over time is likely to impinge on self-concept clarity. That is, perceptions of self-discontinuity could reduce self-concept clarity with detrimental consequences for subjective well-being.

In all, we expected self-discontinuity to be negatively correlated with self-concept clarity, and subjective well-being, and to be positively correlated with neuroticism. Also, we expected self-concept clarity to be positively correlated with subjective well-being, and for neuroticism to be negatively correlated with it. More importantly, we hypothesized that self-concept clarity would mediate the relation between self-discontinuity and subjective well-being, and would do so independently of neuroticism.

#### *Method*

##### ***Participants***

Seventy-seven (41 women, 35 men, 1 undeclared) University of Southampton undergraduates participated for introductory psychology course credit. Their age ranged from 18 to 40 years ( $M = 21.75$ ,  $SD = 4.15$  years).

##### ***Procedure and Measures***

Participants reported to the laboratory and completed a booklet containing measures of self-discontinuity, self-concept clarity, neuroticism, and life satisfaction. All scales exhibited good reliability (Table 1).

*Self-discontinuity.* We assessed self-discontinuity with the Southampton Self-Continuity Index (Wildschut, Sedikides, Routledge, Arndt, & Gaertner, 2006), a newly developed 10-item measure of the extent to which individuals perceive their present self as similar to or different from their past self. Example items are: "I am

different from the person I used to be,” “Looking back, I cannot figure out how I got where I am right now,” and “There is continuity between my past and present” (reverse scored). Participants responded to items on a 5-point scale (1 = *disagree strongly*, 5 = *agree strongly*). Half of the items were worded in the direction of discontinuity, half in the direction of continuity. Higher scores indicated higher levels of self-discontinuity.

*Self-concept clarity.* We assessed this construct with the Self-concept Clarity Scale, as in Studies 1 and 2.

*Neuroticism.* We assessed this construct with the neuroticism subscale of the Big Five Personality Inventory, as in Study 2.

*Subjective well-being.* We assessed this construct with the Satisfaction with Life Scale, as in Studies 1 and 2. We used the same response format (i.e., 5-point), as in Study 2.

### *Results and Discussion*

With one exception, the associations among variables were consistent with our predictions and in agreement with the findings of Studies 1 and 2 (Table 1). Self-discontinuity was negatively related to self-concept clarity and life satisfaction, and was positively but marginally related to neuroticism. Moreover, self-concept clarity was positively related to life satisfaction, whereas neuroticism was negatively (consistent with Studies 1–2) but non-significantly (contrary to Studies 1–2) correlated with life satisfaction. We are uncertain as to why the association between neuroticism and life satisfaction was weaker than in Studies 1–2 but suspect that this may simply reflect sampling variability. Finally, self-concept clarity was negatively related to neuroticism.

Self-concept clarity partially mediated the relation between self-discontinuity and life satisfaction. Self-concept clarity accounted for a significant portion of the shared variance between perceived self-discontinuity and life satisfaction. The specific indirect effects revealed that self-concept clarity was a significant mediator, with a point estimate of  $-.16$  and a 99% BCCI from  $-0.32$  to  $-0.04$ .

We tested the same mediation model to find out if the effect occurred independently of neuroticism (Table 2; Figure 1, panel c). Self-concept clarity partially mediated the relation between self-discontinuity and life satisfaction with a point estimate of  $-.16$  and a 99% BCCI from  $-0.38$  to  $-0.04$ . In all, self-discontinuity was associated with self-concept clarity, which in turn was associated with subjective well-being. This mediating effect of self-concept clarity remained significant when neuroticism was controlled statistically.

Finally, consistent with the previous two studies, we found no support for the reverse mediation model. The indirect effect of life satisfaction on self-concept clarity via self-discontinuity was weak and unreliable with a point estimate of  $.08$  and a 99% BCCI that passed through zero. Furthermore, the direct effects of life satisfaction on self-concept clarity remained statistically significant, after controlling for self-discontinuity. The Study 3 results thus provide further support for the proposed model in which the link between stress (i.e., self-discontinuity) and subjective well-being is mediated by self-concept clarity.

## General Discussion

Over the years, an array of research findings has pointed to the debilitating effects of stress on subjective well-being (Diener et al., 1999; Tetrick & LaRocco, 1987). However, the mechanisms through which stress exerts these damaging effects are less well-understood. We reasoned that psychological stress may adversely influence well-being by negatively impacting on self-concept clarity. Stressful life events are often unexpected, disrupt one's daily routine and stability, challenge one's assumptions about social relationships, and dent one's world view. As such, stressful life events impose multiple and conflicting demands on the self-system, require it to adapt or change, and may weaken a sense of identity coherence.

Psychological stress (e.g., stressful life events, existential threat, disruption of self-continuity) may undermine the clarity of self-views or increase their confusion. We hypothesized that self-concept clarity would mediate the influence of psychological stress on subjective well-being, and that it would do so independently of neuroticism. We conducted three studies to test this hypothesis. In Study 1, we operationalized stress in terms of relatively recent hassles stemming from multiple domains (i.e., social/cultural stress, time-related stress, social rejection stress, victimization stress, work stress, financial stress). In Study 2, we operationalized stress in terms of perceptions of life as meaningless, which could be a secondary stressor to other triggering stressors. In Study 3, we operationalized stress by perceptions of discontinuity between present and past selves, possibly resulting from other stressful triggers as well. In all studies, we operationalized subjective well-being in terms of satisfaction with life.

The three studies produced a converging empirical pattern: Self-concept clarity either fully or partially mediated the relation between stress and subjective well-being, and this effect was statistically independent of neuroticism. The results were consistent with the hypothesis.

Furthermore, we replicated past findings. Stress was negatively related to self-concept clarity and life satisfaction, and was positively related to neuroticism. Also, self-concept clarity was positively related to life satisfaction, and neuroticism was negatively related to life satisfaction (reached significance in two of three studies). Finally, self-concept clarity was negatively related to neuroticism.

We attempted to take into consideration some of the inherent limitations of our correlational findings. First, the mediation analyses controlled for neuroticism, given its positive association with stress and its negative associations with both self-concept clarity and subjective well-being. In one of the three studies self-concept clarity fully mediated the relation between stress and subjective well-being, independent of neuroticism (Study 1), and in the other two studies self-concept clarity partially mediated the relation between different kinds of stress and subjective well-being (Studies 2 and 3). Second, we examined an alternative mediation model, in which stress was introduced as a mediator of the link between subjective well-being and self-concept clarity. This model was based on prior theory suggesting that personality traits influence psychological outcomes through stress appraisal and coping (Bolger & Zuckerman, 1995). Across studies, this alternative model was unsupported by empirical evidence. Of course, still other models could be tested, but it is beyond the scope of the present article to explore all these possibilities. Nonetheless, we examined one additional model that springs readily to mind. In this model, life satisfaction mediates the relation between

psychological stress and self-concept clarity. That is, it could be that stress lowers life satisfaction and that this lowered life satisfaction undermines self-concept clarity. Support for this model was, however, weak and inconsistent across our studies. Clearly, the ambiguity regarding the causal relations among stress, self-concept clarity, and subjective well-being points to a need for future experimental research.

### *Implications and Future Directions*

While offering novel evidence for the mediating role of self-concept clarity in the relation between stress and well-being, the present studies also suggest a number of directions to advance understanding of these domains. One potential direction for future research is to further explore the role of different types of stressors. In the present studies, we selected stressors that were increasingly related with, but were distinct from, self-concept clarity. That is, the stressors were initially external (i.e., hassles; Study 1), then became more internalizing (i.e., meaninglessness; Study 2), and finally referred to aspects of the self (i.e., self-discontinuity; Study 3). It may be that the mediating role of self-clarity diminishes with the stressor moving away from externality and toward internality, due to construct overlap. While this could be an informative distinction to explore, it is worth noting that replication among the three studies for at least a partially mediating role of self-concept clarity, using such different stressors, provides converging evidence for the potentially broad importance of the construct of self-concept clarity.

Our findings have several other implications for future research. Self-concept clarity has recently been shown to vary across at least two domains: social commodities (e.g., looks, popularity, social skills) and communal domains (e.g., kindness, warmth, honesty; Stinson, Wood, & Doxey, 2008). Furthermore, self-views are less clear in the social commodities than communal domain. Might our findings be qualified by domain?

Somewhat related, what are the exact mechanisms through which self-concept clarity mediates the link between stress and subjective well-being? We speculate that these mechanisms include an ability to (a) identify accurately the source of stress, (b) link the source of stress (e.g., social) to the relevant self-concept domain (i.e., social self), and (c) generate and implement plans for actions or coping strategies. One could examine, for example, whether those who maintain self-concept clarity in response to stress more effectively develop (and follow through with) implementation intentions and other such aspects of goal pursuit that attenuate the elicitation of stress. Further, might these mechanisms vary as a function of self-clarity domain?

Future research would do well to address additional questions. What are the causal relations among stress, self-concept clarity, and subjective well-being? Do our findings replicate in a laboratory setting, when stress is manipulated experimentally? Are the findings replicated when subjective well-being is operationalized more broadly (Keyes, Shmotkin, & Ryff, 2002) along specific dimensions (e.g., personal growth, positive relations with others; Ryff, 1989) rather than simply as life satisfaction? Do our findings also replicate with objective indices of well-being and health? Do gradual (vs. sudden) changes in self-concept clarity mediate the relation between stress and subjective well-being? What are the implications of the present findings for intervention? Can strengthening self concept clarity reduce the effects of stress (e.g., traumatic events) on well-being? In sum, while the present studies offer foundational insights into the mediating role of self-concept clarity in the connection

between stress and well-being, we hope they also offer generative value in providing the impetus for further theoretical and empirical advancements, as well as potential applications for stress management.

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