# Ex Appeal: Current Relationship Quality and Emotional Attachment to Ex-Partners

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#### Abstract

Relationship research typically treats feelings about current romantic partners as independent of any lingering attachment to past partners. In contrast, the current study tests for an inverse association between current relationship quality and attachment to expartners. A longitudinal study followed individuals in relationships at three points over the course of 6 months. Participants reported their current relationship quality, emotional attachment to ex-partners, and perceived quality of relationship alternatives. Longitudinal declines in relationship quality predicted increased longing for ex-partners, above and beyond attention to relationship alternatives more generally. On the other hand, increased longing for ex-partners over time predicted decreased relationship quality, but only among those considering recent ex-partners. These findings suggest that ex-partners may be used in a substitution process to bolster belongingness needs when relationships sour and that resolving feelings for one's most recent ex may be important for maximizing a new relationship's potential.

### **Keywords**

relationship quality, emotional attachment to ex-partners, quality of alternatives, longitudinal data, need to belong

The interconnection between feelings for current romantic partners and ex-partners has scarcely been examined in the relationship literature. Research typically portrays new relationships as independent of, and unaffected by, past relationships. However, the small body of literature on this issue suggests that feelings for current and past partners may mutually influence one another. For example, a new romantic relationship can help in getting over an ex-lover, at least in the short term (Spielmann, MacDonald, & Wilson, 2009). Conversely, higher quality alternative relationships can thwart current relationship development and undermine commitment (e.g., Miller, 1997). Construed as an attractive alternative, desirable ex-partners may well hinder feelings for a current partner.

Correlational data are consistent with the existence of an inverse relationship between feelings for current and past romantic partners. Spielmann, MacDonald, and Tackett (in press) found that feeling more connection and intimacy with one's current partner was associated with weaker desires for an ex-partner. However, the direction of this inverse association remains unclear. It may be the case that declining intimacy in a current relationship promotes a heightened sense of connection with an ex-partner. Alternatively, increased romantic feelings for an ex-partner may undermine motivation to connect with a current partner.

Through a 6-month longitudinal study, the present research aimed to clarify the directional course of the dynamic interrelation between current relationship quality and longing

for ex-partners. We predicted that changes in feelings for current partners and past partners would demonstrate a hydraulic relationship. Specifically, increased longing for desirable ex-partners over time should predict declines in relationship quality, particularly among those whose most desirable ex-partner was also their most recent. Recent ex-partners are often perceived as interested in reconciling the relationship (e.g., Gray & Silver, 1990), and past research suggests that attractive alternatives who express romantic interest and availability are particularly likely to decrease commitment to current dating partners (Bazzini & Shaffer, 1999, study 2). In this way, increased longing for more recent ex-partners may have a more negative impact on current relationship quality due to increased perceptions of quality alternatives to one's relationship, relative to longing for more distant, potentially unavailable, ex-partners. Regarding the reverse influence, declines in current relationship quality should predict increased longing for desirable ex-partners. We propose, specifically, that individuals may long for ex-partners above and beyond the tendency to turn to relationship alternatives more generally. In times

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Stephanie S. Spielmann, Department of Psychology, University of Toronto, 100 St. George Street, Toronto, ON M5S 3G3, Canada. Email: steph.spielmann@mail.utoronto.ca of relationship decline, memories of a shared history and intimate connection with an ex-partner may uniquely provide solace in a way that considering more general alternatives to one's relationship may not, highlighting the unique interconnection between past and present relationships.

### Method

### Participants and Procedure

Individuals in relationships were recruited through online forums (e.g., craigslist.org) to participate in an online survey. Participants were then invited personally by e-mail to participate in the two online follow-ups, which took place 3 months and 6 months later. Participants were compensated with entry into monetary draws at each wave. In total, including participants who broke up with their partner between waves, 668 people were recruited in Wave 1, 254 in Wave 2, and 176 in Wave 3.<sup>1</sup> For the purposes of the present research, we selected only those individuals who (a) completed at least two consecutive waves of the study (i.e., completed at least Waves 1 and 2; n = 254), (b) remained in the same relationship at each wave (n = 180), and (c) reported on the same ex-partner at each wave (n = 123). In total, 98 females and 25 males, ranging in age from 18 to 56 years (M = 26.5 years old, SD = 8.5), satisfied all criteria. Participants were primarily from Canada and the United States. Participants who were included in versus excluded from the final analyses did not significantly differ on relevant demographic or relational variables, with the exception of relationship quality. Those who satisfied all criteria reported greater current relationship quality (M = 6.41, SD = 1.10) at Wave 1 than those who were not included (M = 6.05, SD = 1.45), t(662) = -2.59, p = .01.

### Measures

Characteristics of current and past relationships. Participants reported the lengths of their current relationships (range: 1–127 months; M = 13.4, SD = 17.7) and past relationships (range: 1–360 months; M = 32.9, SD = 51.4), as well as the number of months that had passed since their breakup (range: 2–420 months; M = 42.9, SD = 54.9). To promote consideration of ex-partners who may be considered high-quality alternatives to one's current relationship, participants were asked to consider the ex-partner "with whom you would most like another chance." At each wave, participants provided the initials of this most-desired ex-partner. Fifty-five percent of participants indicated that the ex-partner with whom they most wanted another chance was their most recent ex-partner.<sup>2</sup> Correlations between all time-related variables are presented in Table 1.

Current relationship quality. An aggregate measure of relationship quality (wave-level  $\alpha = .94$ , person-level  $\alpha = .95$ ) was created based on reports of satisfaction (e.g., "I feel satisfied with our relationship"; Rusbult, Martz, & Agnew, 1998), commitment (e.g., "I want our relationship to last a very

Table 1. Intercorrelations Between Time-Related Variables at Wave 1.

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\*p < .05. \*\*\*p < .001.

long time"; Rusbult et al., 1998), and perceived intimate connection with one's partner (e.g., "My partner and I have a meaningful connection"; Spielmann, MacDonald, & Tackett, in press).

Perceived quality of relationship alternatives. Perceived quality of alternatives to the current relationship was assessed with items such as, "My needs for intimacy, companionship, etc., could easily be fulfilled in an alternative relationship" (Rusbult et al., 1998; wave-level  $\alpha = .81$ , person level  $\alpha = .83$ ).

Emotional attachment to ex-partner. Feelings of emotional attachment to the ex-partner were assessed with items such as, "I am still in love with him/her" (Spielmann et al., 2009; Wegner & Gold, 1995; wave-level  $\alpha = .86$ , person-level  $\alpha = .88$ ).

### Results

We tested our hypotheses using hierarchical linear modeling (HLM Version 6.08; Raudenbush, Bryk, Cheong, & Congdon, 2004). Because of a small number of waves, all predictor variables were grand-mean centered and analyses included only random intercepts and not random slopes. Unstandardized coefficients are reported.

## Change in Longing for Ex-Partners as a Predictor of Change in Relationship Quality

We first tested whether changes in longing for ex-partners accounted for inverse changes in relationship quality. Relationship quality at a given wave (w) was modeled as a function of relationship quality at the previous wave (w - 1), such that the outcome reflected residual change in relationship quality from one wave to the next. The model further included emotional attachment to the ex-partner at both the current wave (w) and the previous wave (w - 1), such that attachment to the expartner at the current wave reflected residual change in feelings for the ex from one wave to the next (for further explanation of residual change analyses, see Fagundes, 2012). Furthermore, to account for change in longing for ex-partners above and beyond desires for alternative partners more generally, we included perceived quality of alternatives at the current wave (w) and the previous wave (w - 1). As can be seen in Table 2, longitudinal increases in longing for ex-partners predicted significant decreases in relationship quality, above and beyond perceived quality of alternatives.

Table 2. Results	; of	Residual	Change .	Analyses.
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Outcome	Predictors	b (SE)
Relationship quality at wave w	Relationship quality at wave w $-1$	.64 (.06)***
	Emotional attachment to ex-partner at wave w $-1$	.16 (.08)*
	Emotional attachment to ex-partner at wave w	—.24 (.07)́**
	Quality of alternatives at wave $w - I$	.10 (.04)́*
	Quality of alternatives at wave w	23 (.04)***
Emotional attachment to ex-partner at wave w	Emotional attachment to ex-partner at wave w $-1$	.72 (.05)***
	Relationship quality at wave $w - 1$	.17 (.07)*
	Relationship quality at wave w	—.21 (.06)**
	Quality of alternatives at wave $w - I$	.03 (.04)
	Quality of alternatives at wave w	.03 (.03)

\*\*\*\*p < .001. \*\*\*p < .01. \* p < .05.

Does increased longing for an ex-partner more negatively affect current relationship quality if the ex is an attainable, desirable alternative? Because recent ex-partners are likely to be more attainable alternatives than more distant ex-partners, we tested whether the longitudinal effect of emotional attachment to ex-partners on relationship quality was moderated by ex-partner recentness. Ex-partner recentness was included as a Level-2 between-participants predictor  $(1 = most \ recent$ ex-partner, 0 = not most recent ex-partner, with changes in relationship quality and longing for the ex-partner as Level-1 variables. There was a significant interaction between ex-partner recentness and residual change in attachment to the ex-partner predicting change in relationship quality, b = -.39, SE = .15, p = .01 (see Figure 1). Simple effects tests revealed that change in longing for an ex-partner over time predicted significant change in relationship quality when considering one's most recent ex-partner, b = -.53, SE = .12, p < .001. When the ex-partner in question was not the most recent, changes in longing for the ex-partner from wave to wave did not predict changes in relationship quality, b = -.15, SE = .10, ns. These effects held when controlling for time passed since the breakup. Moreover, in a parallel analysis in which ex-partner recentness was substituted with the continuous measure of time passed since the breakup, time since the breakup was not a significant moderator of the association between change in longing for ex-partners and change in current relationship quality, b = .002, SE = .002, ns. This finding suggests that ex-partner recentness uniquely predicts the interconnection between feelings for past and present partners in a way that cannot directly be assessed with the mere passage of time.

To explore whether the moderation by ex-partner recentness was due to recent ex-partners being associated with increased quality of alternatives, we tested perceived quality of alternatives as a mediator (Muller, Judd, & Yzerbyt, 2005; Zhang, Zyphur, & Preacher, 2009). The first step of the multilevel mediated moderation required demonstrating that increased longing for more recent ex-partners is associated with increased quality of alternatives over time (our proposed mediator), compared to longing for more distant ex-partners. A moderation analysis revealed a significant interaction between ex-partner recentness and residual change in attachment to the ex-partner predicting change in perceived quality of alternatives, b = .94, SE = .30, p = .003. Simple effects tests revealed that increased longing for an ex-partner over time predicted significant increases in perceived quality of alternatives when considering attachment to one's most recent ex-partner, b = .95, SE = .26, p < .001. However, when considering an ex who was not their most recent partner, increased longing for the ex-partner was not associated with perceived quality of alternatives, b = .02, SE = .16,  $ns.^3$ 

Satisfying the conditions for mediated moderation, inclusion of perceived quality of alternatives as a mediator reduced the longing for ex-partner by ex-partner recentness interaction to nonsignificance, b = -.15, SE = .14, p = .25. Moreover, the change in quality of alternatives was a significant negative predictor of change in relationship quality, b = -.24, SE = .06, p = .001, and a significant Sobel test confirmed mediation, Sobel = -2.47, SE = .09, p = .01. In other words, those who increased their longing for a recent ex-partner experienced subsequent declines in relationship quality because they viewed their recent ex-partners (but not their more distant expartners) as desirable alternatives to their current relationship.

### Change in Relationship Quality as a Predictor of Change in Longing for Ex-Partners

Next, we constructed a reversed model, testing the possibility that longitudinal changes in relationship quality from wave to wave accounted for inverse changes in longing for expartners, once again accounting for feelings for alternative partners more generally. As can be seen in Table 2, longitudinal declines in relationship quality predicted significant increases in longing for ex-partners, over and above tendencies to turn to relationship alternatives more generally.

We again tested whether the longitudinal effect of relationship quality on emotional attachment to ex-partners was qualified by an interaction with ex-partner recentness. The effect of declining relationship quality on increased longing for expartners was only marginally moderated by ex-partner recentness, b = -.20, SE = .11, p = .08, revealing a stronger association for recent ex-partners, b = -.32, SE = .09, p = .001, compared to distant ex-partners, b = -.12, SE = .09, p = .09. Figure 1. Change in relationship quality as a function of change in emotional attachment to ex-partners and recentness of ex-partner.

However, this interaction did not hold when accounting for time passed since the breakup, b = -.13, SE = .12, p = .28. Importantly, this interaction was not accounted for by perceived quality of alternatives, which were not predicted by an ex-partner recentness by relationship quality interaction, b = .06, SE = .27, ns. Taken together, when relationship quality was on the decline, individuals increased longing for their most desired ex-partners by and large regardless of how recent or distant the ex-partners were, and for motivations other than turning to relationship alternatives more generally.

### Alternative Hypotheses

For all analyses, results held when controlling for age, sex, length of the current and past relationships, months passed since the breakup, self-esteem (Rosenberg, 1965), and anxious and avoidant attachment (Feeney, Noller, & Hanrahan, 1994). Furthermore, none of these variables significantly moderated temporal changes in feelings for past or present romantic partners.

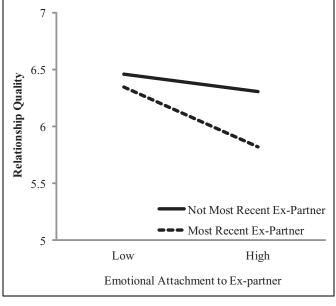
### Discussion

The present longitudinal study provides compelling support for the notion that feelings for ex-partners and current partners are more connected than relationship research has previously considered. Analyses revealed that increased longing for expartners predicted declines in relationship quality, but only when focused on one's most recent ex-partner. This is because longing for more recent ex-partners is associated with perceptions of relationship alternatives, while longing for more distant ex-partners is not. Conversely, declines in relationship quality over time predicted increased longing for ex-partners, above and beyond perceived quality of alternatives. In other words, as current relationships became less gratifying, individuals appeared to turn more strongly toward desirable expartners. Taken together, the present findings suggest that while continued longing for ex-partners particularly hinders current relationship functioning when the ex-partner is considered an attractive alternative, unfulfilled needs in one's relationship may promote turning to thoughts of ex-partners more generally.

The interconnection between feelings for current and past partners has broad implications for relationship research, particularly concerning past relationships and perceived quality of alternatives. The present findings replicate established research on relationship alternatives. Specifically, the study revealed that change in one's perceived quality of alternatives predicted change in one's current relationship quality. This is in line with extant research on the harmful effects of desirable relationship alternatives (Kenrick, Neuberg, Zierk, & Krones, 1994; Lydon, 2010; Miller, 1997). However, the present research is the first to explicitly demonstrate that ex-partners may be considered in one's evaluations of relationship alternatives, affecting one's current relational outcomes. The present findings suggest that ex-partners may serve as desirable relationship alternatives, with romantic feelings for recent exes interfering with current relationship quality. The present work, therefore, has the potential to extend research on romantic alternatives because of the unique characteristics of an expartner as an alternative. Indeed, the present study revealed that declines in relationship quality uniquely predicted turning to thoughts of ex-partners, above and beyond general desires for alternatives to one's relationship, suggesting that motivations for turning to ex-partners when a current relationship is on the decline may not be the same motivations involved with turning to relationship alternatives more generally. For instance, memories of ex-partners may be tinged with nostalgia, an emotional state that may provide a particular sense of comfort during times of relationship threat (e.g., Routledge, Arndt, Sedikides, & Wildschut, 2008).

The complex interplay between feelings for current partners and ex-partners also has implications for recovery from breakups and the phenomenon of rebound relationships. Spielmann, MacDonald, and Wilson (2009) found that focusing on new partners helped individuals to get over their ex-partners in the short term. The present findings suggest, however, that not just any new relationship will necessarily promote getting over an ex. Those who choose relatively low-quality relationships seem more vulnerable to longing for their ex as the honeymoon phase fades in their new relationship.

Pining for ex-partners in the wake of decreased relationship quality highlights the hydraulic nature of the need to belong. The belonging substitution hypothesis suggests that close connections with others are relatively substitutable for one another, such that the loss of one connection can be tempered with another (Baumeister & Leary, 1995). During troubled times in a relationship, positive and affirming memories of a desirable ex-partner may validate one's sense of self-esteem and



love worthiness and may engender some hope of a relationship that could again be a reality. Consistent with the substitution hypothesis, we found that the less content individuals were in their romantic relationships, the more they turned to thoughts of ex-partners for belongingness satisfaction. On the other hand, the belonging satiation hypothesis suggests that meeting a threshold of belonging satisfaction limits desire to pursue additional sources of belonging (Baumeister & Leary, 1995). In support of the satiation hypothesis, participants in the current study who continued longing for recent ex-partners experienced declining relationship quality. Focusing romantic thoughts on a recent ex-partner may have thwarted development in a new intimate relationship.

An important limitation of the present research concerns the largely female composition of the sample. Although females do not necessarily have more difficulty getting over ex-partners than males (Simpson, 1987; Sprecher, 1994; cf. Frazier & Cook, 1993), and do not typically report different levels of reward or satisfaction in their relationships (e.g., Kurdek, 2005; Spielmann et al., in press; cf. Sprecher, Felmlee, Metts, Fehr, & Vanni, 1998), it is possible that the dynamics of turning to thoughts of an ex-partner in response to declining relationship quality differ across genders in a way our data do not detect. Furthermore, the process of data collection in the present study warrants consideration. While our online sample permits generalization to a community of participants who are arguably more representative than typical college student samples in terms of age and experience with lasting and committed romantic relationships, the process of conducting longitudinal studies with online samples is not without its complications. Importantly, the relatively large rate of attrition from wave to wave is an important limitation. However, as we report above, the sample of participants included in, versus excluded from, the present research did not differ reliably on almost all variables of interest. Therefore, attrition likely did not impact the generalizability of our sample. Along the lines of specific inclusion criteria, however, our analyses included only those who remained in their relationship over time. This subset of participants was, not surprisingly, higher in relationship quality than those who broke up, and reported relatively high levels of relationship quality at each wave. While this subsample of participants may limit generalizability to other relationship contexts, such as those in relatively unsatisfying relationships, it appears to highlight the sensitive interconnection between feelings for current partners and ex-partners by demonstrating that even minor fluctuations in relationship quality affect, and are in turn affected by, longing for ex-partners.

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#### Notes

- 1. These were the final sample sizes after excluding participants whose data suggested response sets according to an algorithm applied to reverse-coded items. The original sample sizes of participants who completed the surveys in entirety were 798, 333, and 266 in Waves 1, 2, and 3, respectively.
- 2. Only 4% of the overall sample in Wave 1 (27 of 668 people) explicitly indicated that they had no desire to reunite with any expartner.
- 3. The moderation was not significant when replacing ex-partner recentness with time passed since the breakup. Furthermore, independent models predicting change in perceived quality of alternatives from a main effect of ex-partner recentness and time passed since the breakup revealed a significant main effect of ex-partner recentness, b = .39, SE = .20, p = .05, but not a significant main effect of time since the breakup, b = -.002, SE = .002, *ns*. Moreover, the effect of ex-partner recentness on perceived quality of alternatives remained marginally significant when controlling for time passed since the breakup, b = .39, SE = .23, p = .09. These results suggest that whether or not one has dated other people since breaking up with a desirable ex-partner has a more powerful effect on changes in one's perceptions of romantic alternatives and changes in relationship quality with one's current partner than does the mere passage of time since the breakup with the ex-partner.

#### References

- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117, 497–529. doi:10.1037/0033-2909. 117.3.497
- Bazzini, D. G., & Shaffer, D. R. (1999). Resisting temptation revisited: Devaluation versus enhancement of an attractive suitor by exclusive and nonexclusive daters. *Personality and Social Psychol*ogy Bulletin, 25, 162–176. doi:10.1177/0146167299025002003
- Fagundes, C. P. (2012). Getting over you: Contributions of attachment theory for postbreakup emotional adjustment. *Personal Relationships*, 19, 37–50. doi: 10.1111/j.1475-6811.2010.01336.x
- Feeney, J. A., Noller, P., & Hanrahan, M. (1994). Assessing adult attachment. In M. B. Sperling & W. H. Berman (Eds.), *Attachment in adults: Clinical and developmental perspectives* (pp. 128–152). New York, NY: Guilford.
- Frazier, P. A., & Cook, S. W. (1993). Correlates of distress following heterosexual relationship dissolution. *Journal of Social and Per*sonal Relationships, 10, 55–67. doi:10.1177/0265407593101004
- Gray, J. D., & Silver, R. C. (1990). Opposite sides of the same coin: Former spouses' divergent perspectives in coping with their divorce. *Journal of Personality and Social Psychology*, 59, 1180–1191. doi:10.1037/0022-3514.59.6.1180
- Kenrick, D. T., Neuberg, S. L., Zierk, K. L., & Krones, J. M. (1994). Evolution and social cognition: Contrast effects as a function of sex,

dominance, and physical attractiveness. *Personality and Social Psychology Bulletin*, 20, 210–217. doi:10.1177/0146167294202008

- Kurdek, L. A. (2005). Gender and marital satisfaction early in marriage: A growth curve approach. *Journal of Marriage and Family*, 67, 68–84. doi:10.1111/j.0022-2445.2005.00006.x
- Lydon, J. E. (2010). How to forego forbidden fruit: The regulation of attractive alternatives as a commitment mechanism. *Personality* and Social Psychology Compass, 4, 635–644. doi:10.1111/j. 1751-9004.2010.00283.x
- Miller, R. S. (1997). Inattentive and contented: Relationship commitment and attention to alternatives. *Journal of Personality and Social Psychology*, 73, 758–766. doi:10.1037/0022-3514.73.4.758
- Muller, D., Judd, C. M., & Yzerbyt, V. Y. (2005). When moderation is mediated and mediation is moderated. *Journal of Personality and Social Psychology*, 89, 852–863. doi:10.1037/0022-3514.89.6.852
- Raudenbush, S. W., Bryk, A. S., Cheong, Y. F., & Congdon, R. T. (2004). *HLM 6: Hierarchical linear and nonlinear modeling*. Chicago, IL: Scientific Software International.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Routledge, C., Arndt, J., Sedikides, C., & Wildschut, T. (2008). A blast from the past: The terror management function of nostalgia. *Journal of Experimental Social Psychology*, 44, 132–140. doi: 10.1016/j.jesp.2006.11.001
- Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The Investment Model Scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships*, 5, 357–391. doi:10.1111/j.1475-6811.1998.tb00177.x
- Simpson, J. A. (1987). The dissolution of romantic relationships: Factors involved in relationship stability and emotional distress. *Journal of Personality and Social Psychology*, 53, 683–692. doi: 10.1037/0022-3514.53.4.683
- Spielmann, S. S., MacDonald, G., & Tackett, J. L. (in press). Social threat, social reward, and the regulation of investment in romantic relationships. *Personal Relationships*. doi:10.1111/j.1475-6811. 2011.01377.x.
- Spielmann, S. S., MacDonald, G., & Wilson, A. E. (2009). On the rebound: Focusing on someone new helps anxiously attached

individuals let go of ex-partners. *Personality and Social Psychology Bulletin*, 35, 1382–1394. doi:10.1177/0146167209341580

- Sprecher, S. (1994). Two sides to the breakup of dating relationships. *Personal Relationships*, *1*, 199–222. doi:10.1111/j.1475-6811. 1994.tb00062.x
- Sprecher, S., Felmlee, D., Metts, S., Fehr, B., & Vanni, D. (1998). Factors associated with distress following the breakup of a close relationship. *Journal of Social and Personal Relationships*, 15, 791–809. doi:10.1177/0265407598156005
- Wegner, D. M., & Gold, D. B. (1995). Fanning old flames: Emotional and cognitive effects of suppressing thoughts of a past relationship. *Journal of Personality and Social Psychology*, 68, 782–792. doi: 10.1037/0022-3514.68.5.782
- Zhang, Z., Zyphur, M. J., & Preacher, K. J. (2009). Testing multilevel mediation using hierarchical linear models: Problems and solutions. Organizational Research Methods, 12, 695–719. doi:10.1177/1094428108327450

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