

The Role of Self-Reflection and Capitalization in Integrating
Personally Self-Expanding Experiences in a
Relational and Non-Relational Context

by

Johanna Friederike Boettcher

A thesis submitted to the Faculty of Graduate and Postdoctoral Affairs
in partial fulfillment of the requirements for the degree of

Master of Arts

in

Psychology

Carleton University
Ottawa, Ontario

©2016

Johanna Friederike Boettcher

Abstract

Personal self-expansion (i.e., self-growth outside the relationship) may benefit relationships and the self. I hypothesized that personal self-expansion promotes relationship satisfaction *and* meaning in life especially for people who self-reflect and capitalize. In Study 1, a community sample ($N = 104$) completed self-report measures of trait personal self-expansion, relationship satisfaction, capitalization, self-reflection, and meaning. In Study 2 ($N = 93$), half of the sample was assigned to self-reflect (vs. control group) after all participants had engaged in a self-expanding sculpture activity. Then relationship satisfaction and meaning in life were assessed. Results were mixed; In Study 1, trait personal self-expansion predicted relationship satisfaction, especially if the partner reacts constructively to positive news. In Study 2, relationship satisfaction decreased after the activity but state personal self-expansion predicted meaning in life. Those that self-reflect reported positive changes in the amounts of meaning in life but those that did not self-reflect indicated negative changes.

Key words: Self-Expansion, Romantic Relationships, the Self,
Relationship Satisfaction, Meaning, Capitalization, Self-
Reflection, Integration

Acknowledgements

First and foremost, I would like to thank my supervisor, Dr. Cheryl Harasymchuk, for the extraordinary learning experience she provided me with. Cheryl always encouraged me to think outside the box while developing my research question and she was always at my side to assist me with her superb knowledge about relationship research. Her modern and approachable supervisory style motivated me tremendously as I felt that my contributions were valued and appreciated. Additionally, my academic writing ability improved significantly thanks to Cheryl's incredible amounts of patience and constructive feedback. She also made it possible for me to attend various conferences where she helped me to further develop critical thinking skills by discussing the presented research. Cheryl taught me what it means to think like a researcher – a skill that I would not want to miss and hope to develop further!

I would also like to thank my committee members, Dr. John Zelenski, Dr. George Pollard, and Dr. Chris Davis for taking the time to read my thesis and to discuss it at my defense. In particular, I thank John for also attending my prospectus defense where he gave me valuable feedback that improved my ideas and made them more feasible.

A special thank you goes to Deanna Walker, Stephanie Biro, Danay Novoa, Chantal Bacev-Giles, and Shamarukh Chowdhury. It is thanks to Shamarukh's flexibility and Deanna's spectacular attention to detail that data collection went smoothly. Stephanie's editing kept me calm whenever I doubted my writing capabilities and Chantal and Danay's academic and emotional support as well as their friendship did not only help me tremendously in completing my thesis but also made me feel welcome within the Social and Personality Psychology community at Carleton University.

Table of Contents

Abstract	ii
Acknowledgements	iii
List of Tables	vi
List of Figures	vii
List of Appendices	vii
The Role of Self-Reflection and Capitalization in Integrating Personally Self-Expanding Experiences in a Relational and Non-Relational Context.....	1
Self-Expansion Model	2
Part 1: Expansion.....	6
Part 2: Integration	10
Current Study	17
Rationale	18
Study 1	20
Method.....	20
Participants.....	20
Materials and Procedure.....	21
Results	25
Preliminary Analyses.	25
Main Analysis	27
Summary.....	32
Study 2	33
Method.....	34
Participants.....	34
Materials and Procedures	35
Results	41
Preliminary Analysis.....	41
Main Analyses.....	44
Summary.....	50

General Discussion	51
Personal Self-Expansion and Romantic Relationships	52
Personal Self-Expansion and Meaning in Life	55
Trait levels of Personal Self-Expansion and The Presence of Meaning in Life.....	55
The Role of Integrating Personal Self-Expansion into the Self to Experience Meaning.	58
Advancements to the Literature.....	59
Extension of the Literature on Personal Self-Expansion.....	59
Empirical Examination of the Integration Phase.....	61
Methodology	64
Limitations and Future Research.....	65
References.....	71
Notes	79

List of Tables

Table 1. Descriptive Statistics of all Variables of Interest in Study 1	83
Table 2. Pearson Correlations of all Variables of Interest in Study 1.....	84
Table 3. Hierarchical Multiple Regression Analysis Testing Trait Personal Self- Expansion as a Predictor of Relationship Satisfaction	85
Table 4. Regression Analysis Testing The Trait Personal Self-Expansion x Capitalization Interaction as a Predictor of Relationship Satisfaction	86
Table 5. Hierarchical Multiple Regression Analyses Testing Trait Personal Self- Expansion as Predictor of Presence of and Search for Meaning in Life	87
Table 6. Hierarchical Regression Analysis Testing the Trait Personal Self-Expansion x Self-Reflection Interaction as a Predictor of Presence of and Search for Meaning in Life	88
Table 7. Descriptive Statistics Across Conditions for Study 2.....	89
Table 8. Descriptive Statistics for the Manipulation Check for State Levels of Personal Self-Expansion.....	90
Table 9. Descriptive Statistics Within Conditions Study 2.....	91
Table 10. Pearson Correlations among All Variables of Interest	92
Table 11. Hierarchical Regression Analysis Testing Expanded Sense of Self.....	93
Table 12. Hierarchical Regression Analysis Testing State Personal.....	94
Table 13. Hierarchical Regression Analysis Testing Expanded Sense of Self as	95
Table 14. Hierarchical Regression Analysis testing State Self-Expansion.....	96
Table 15. Pearson Correlations of all Variables of Interest Including the Subscales of Trait Personal Self-Expansion, Novelty and Augmentation.....	97
Table 16. Regression Analysis testing the Augmentation x Capitalization.....	98
Table 17. Hierarchical Multiple Regression Analysis Testing Subscales of	99
Table 18. Hierarchical Multiple Regression Analyses Testing the Subscales of Personal Self-Expansion, ... Augmentation and Novelty, as Predictors of Presence of and Search for Meaning in Life.....	100
Table 19. Hierarchical Multiple Regression Analysis Testing the	101
Table 20. Hierarchical Regression Analysis Testing State Personal	101
Table 21. Hierarchical Regression Analysis Testing The Expanded Sense of.....	102
Table 22. Hierarchical Regression Analysis testing Expanded Sense of Self	103

List of Figures

Figure 1. Displaying the interaction effect between Personal Self-Expansion and Capitalization on Relationship Satisfaction	104
Figure 2. Displaying the Interaction Effect of Augmentation and Capitalization on Relationship Satisfaction.	105
Figure 3. Displaying the interaction effect of Novelty and Self-Reflection on the Search for Meaning in Life.....	106

List of Appendices

Appendix A: Materials for Study 1.....	107
Appendix B: Materials for Study 2.....	117
Appendix C: Certificate of Ethics Clearance.....	135

The Role of Self-Reflection and Capitalization in Integrating Personally Self-Expanding Experiences in a Relational and Non-Relational Context

Can personal growth experiences (e.g., learning a new skill such as horseback-riding) benefit a romantic relationship *or* are benefits best derived from growth experiences obtained in the relationship (i.e., experiences the couple engages in together)? A recent debate over increases in marital expectations suggests that personal growth found inside *as well as* outside the relationship might benefit couples (Finkel, Hui, Carswell, & Larson, 2014). Take for instance David who loves to go on hiking adventures with his girlfriend, Sofia. He feels like he is able to learn many new aspects about himself through the adventures with Sofia and perceives being together with her as a stimulating factor for his own inner growth. However, David is aware that his entire need for inner growth cannot be exhausted in spending time with Sofia. Thus, he takes Sofia's natural inability to fully satisfy his need for fulfillment as a reveille to engage in growth-enhancing activities by himself and started taking painting classes. He enjoys sharing these personal experiences with Sofia afterwards as she always has an interesting comment on his paintings and they both feel inspired by these conversations (Aron & Aron, 2014).

One model that describes David and Sofia's experience is the self-expansion model (Aron & Aron, 1986). According to the self-expansion model, people have an innate need to grow. Although much of the work on this model has centered on the relational domain (e.g., Aron & Aron, 1986; Aron, Norman, Aron, McKenna, & Heymann, 2000; Aron, Paris, & Aron, 1995; Reissman, Aron, & Bergen, 1993), the model also applies outside the relational context (e.g., Aron & Aron, 1986; Gordon &

Luo, 2011; Mattingly & Lewandowski, 2013a). In fact, Aron and Aron (1986) suggest that couples that have reached their maximum of self-expansion

will begin to recognize that no one and nothing can offer complete fulfillment. In order to be in a relationship, each must accept this limit within a person, eventually, and look inside for the abilities, understandings, and / or experiences that will maximize the self-expansion. (pp. 137-138)

Therefore, personal self-expansion (i.e., growth experienced without the partner) appears beneficial for the well-being of the self *as well as* for the relationship. Despite Aron and Aron's (1986) hypothesis that growth derived outside the relationship has benefits for the relationship, little research has explored this topic. Thus, the goal of this research is to a) examine the advantages that personal self-expansion may have for the couple and the self and b) to increase our understanding of the mechanisms that assist people with integrating self-expansion experiences obtained outside the relationship into the self and into the romantic dyad. The following research paper will commence with a review of the literature on the self-expansion model followed by a discussion of personal self-expansion. In the second half of the review, I will discuss the literature on possible mechanisms that assist the individual in successfully integrating personal self-expansion experiences into the relationship (i.e., self-reflection and capitalization).

Self-Expansion Model

Self-expansion is a motivational force that enables us to do and accomplish everyday tasks as well as lifelong goals (Aron & Aron, 1986, 2000). Next to satisfying bodily needs, people also experience the need for exploration, feeling competent, and

self-efficacy (Aron & Aron, 2000), as well as the desire to decrease boredom in their lives (Mattingly & Lewandowski, 2014a). Mattingly and Lewandowski (2014a) summarized these needs as people's yearning to "broaden their horizon" (p.30). In other words, people are constantly looking for opportunities to grow and enhance their self-concept.

According to Aron and Aron (1986), the self can be subdivided into the "me" and "I" aspects. The "me" describes the cognitive component that includes what many call the self-concept – the cognitive structures we developed from our beliefs about how others perceive us (Aron & Aron, 1986). The "I", on the other hand, is pure consciousness and the direct experiencer of the environment and our behaviour (Aron & Aron, 1986). Aron and Aron (1986) clarified that the unification of the "me" and the "I" is often illustrated as the ultimate goal of reaching fulfillment in various psychological theories such as in Maslow's (1968) state of self-actualization. A person seeking to expand can also be described as a person who is hoping to increase the complexity of his or her self-concept (i.e., the "me"-component of the self) by adding novel information or through mastering challenges. Thus, self-expanding experiences are mainly understood as activities or events that add novel aspects to our self-concept - to the "me" component of our self (Aron & Aron, 1986). Within the context of close relationships, the enlargement of the self-concept is often mistakenly explained as the cognitive incorporation of the partner into one's own self-concept. However, the inclusion of the other into one's own identity is merely one way a person can engage in the process of expanding the self. More specifically, anything that is new, exciting, and / or challenging for a person has a self-expansion potential for the cognitive structures that constitute the self. Examples

range from learning new information in a book (e.g., how the appraisal of stress matters for your health) to learning a new skill through the interaction with others such as the intimate partner (e.g., salsa dancing; Aron & Aron, 1986, 2012).

Aron and Aron (1986) also suggested that a person can be in either one of two stages: the **expansion** phase or the **integration** phase. They defined the integration phase as “a motivated process, a striving to incorporate newly acquired perceptions into existing cognitive structures” (Aron & Aron, 1986, p.22). The expanded person is filled with novelty and complexity and is looking to decrease that complexity through integration of the novelty into the self-concept (Aron & Aron, 1986). In other words, Aron and Aron (1986) acknowledged that the aptitude to use new knowledge, skills, or experiences that were acquired via self-expansion requires a phase during which the self-expanded person can withdraw from stimulation and make sense of their growth experience as well as cognitively incorporate it into their self-concept. An integrated person has “digested” the previous self-expanding experience and is ready to expand again. Aron and Aron (1986) claimed that during the integration phase, a person desires simplicity, restfulness, and little or even no change. Thus, Aron and Aron’s (1986) model is a cyclical process that requires periods of withdrawal (i.e., for integration) as well as action and growth (i.e., for expansion). In order to better illustrate the cyclical process of self-expansion and integration, recall the case of David and Sofia. David starting to learn how to paint and being able to express himself may represent an aspect of himself that he was previously unaware of (i.e., self-expansion phase). After finishing his first painting, he takes a step back and wonders what this painting may say about him as a person. Thus, he is having a quiet moment, which allows him to become aware of his skill as a painter.

In other words, David is integrating this new experience into his self-concept (i.e., integration phase). Additionally, he decides to tell Sofia about his newly discovered skill as a painter and shows her the painting. Sofia is happy that David discovered a new passion and encourages him to keep on painting by providing him with positive feedback as well as with constructive criticism on his painting. The conversation inspires both of them and strengthens David's interest in improving his painting skills as well as the bond between David and Sofia. Thus, David's self-expansion experience benefitted both himself and his relationship.

The story of David and Sofia illustrates that self-expansion can occur within the relationship (e.g., recall David's previous desires to go on hiking adventures with Sofia) and outside the relationship (i.e., David's discovery of his painting skill). However, independent from whether the self-expansion was relational or personal (i.e., outside the relationship), the integration phase of Aron and Aron's (1986) model applies to both self-expansion experiences. In fact, David may have integrated his self-expanding experience (i.e., learning how to paint) twice. He incorporated it into his self-concept when quietly reflecting on his painting and he integrated his skill into his relationship with Sofia by sharing his experience with her afterwards. Therefore, the integration phase seems to occur on a personal as well as on a relational level.

The benefits that both, David and Sofia, may derive from David's experience of becoming a painter as well as the ways David engages in to integrate his inner growth into his self-concept (i.e., quietly reflecting on the painting) and into his relationship (i.e., discussing the painting with Sofia) will be empirically examined in this research project. Therefore, I will review the literature on personal self-expansion and on the

psychological mechanisms that may facilitate the integration phase in in the following sections.

Part 1: Personal Self-Expansion

According to Aron and Aron (1986) anything new or exciting may have a self-expanding potential and facilitate an individual's personal growth (Aron & Aron, 1986). An increasing amount of research has examined personal self-expansion (i.e., without their romantic partner) in the form of state and trait levels (e.g., Gordon & Luo, 2011; Mattingly & Lewandowski, 2013a). Whereas state levels describe personal self-expansion from a more situational perspective, trait levels of personal self-expansion refer to a person's tendency to desire growth-enhancing activities.

State Levels of Personal Self-Expansion. Mattingly and Lewandowski (2013a) examined state levels of personal self-expansion by testing whether non-relational, novel, and exciting activities facilitate the engagement in self-expansion. In six experimental studies, they found that participants who completed a novel and exciting physical activity reported significantly more self-expansion than those who completed a familiar and more boring physical activity. In order to eliminate the alternative explanation that physical arousal could have confounded the findings, the researchers repeated the experiment but presented their participants with novel versus familiar facts (Mattingly & Lewandowski, 2013a). The difference in self-expansion between the novel and familiar group of the physical activity were replicated with the cognitive activity (Mattingly & Lewandowski, 2013a). Moreover, the researchers controlled for confounding variables such as self-regulation, mood, and self-esteem and were still able replicate the variance in self-expansion levels between the groups (Mattingly & Lewandowski, 2013a). Furthermore,

in one of their subsequent studies, Mattingly and Lewandowski (2013a) demonstrated that personal self-expanding activities yielded greater efforts when completing a cognitive task, while controlling for positive or negative affect.

Personal self-expansion is also assumed to include cognitive changes to the self-concept (Mattingly & Lewandowski, 2014b). Mattingly and Lewandowski (2014b) tested this assumption through embodied cognition. More specifically, they hypothesized that people who experience more personal self-expansion would have self-concepts greater in size compared to a control group (Mattingly & Lewandowski, 2014b). They manipulated personal self-expansion by asking participants to pull or point at bricks, which were either labelled with exciting and novel activities, or with familiar and unexciting ones (Mattingly & Lewandowski, 2014b). The results showed that people who were in the “novel activities–pull towards” group had the largest self-concepts compared to all other groups suggesting that experiencing high levels of non-relational self-expansion leads to a cognitive enlargement of our self-concept (Mattingly & Lewandowski, 2014b).

Trait Levels of Personal Self-Expansion. The desire to engage in growth-related activities may differ from person to person. Thus, personal self-expansion can be thought of as a particular state or as an individual difference. Gordon and Luo (2011) discussed the importance of considering individual differences in the self-expansion process by establishing a new scale, the Personal Expansion Questionnaire that was intended to measure a person’s individual tendency to engage in self-expansion outside of his or her relationship.¹ They found that trait personal self-expansion was positively correlated with openness, agreeableness, positive affectivity, and need of achievement but negatively with negative affect and neuroticism (Gordon & Luo, 2011, study 2).

Benefits of Trait and State Personal Self-Expansion for the Self. The correlations with other personality traits as reported by Gordon and Luo (2011) suggests that trait personal self-expansion has benefits for the self. However, being in a state of personal self-expansion may also be beneficial for the self as it may enhance one's perception of having a purpose in life. Even though there is no empirical research that specifically looked at the connection between self-expansion and meaning in life, Aron and Aron (2012) theorized that self-expansion promotes having a purpose or meaning in life. Self-expansion is a motivational force that may lead people to increase their own potential of self-efficacy through the incorporation of a close other's skillset or by encouraging the desire to accomplish personal goals in life. Mattingly and Lewandowski (2013b) substantiated this theoretical suggestion and tested the association between self-concept size and levels of self-efficacy via three correlational and one experimental study. Their results showed that people who perceived their self-concept as bigger and to encompass more traits, also reported to feel more self-efficacious (Mattingly & Lewandowski, 2013b). Self-efficacy has been linked to meaning in life several times (Steger & Dik, 2009; Lightsey, Boyraz, Ervin, Rarey, Gharghani, & Maxwell, 2014) and even though, Aron and Aron (2012) heavily focus on self-expansion experienced with the partner and how our close relationships may "function to provide purpose [for] our own individual survival" (Aron & Aron, 2012, pp. 189-190), they also introduce the idea that life goals can be set in many areas of life (e.g., school, work, sports) and do not have to be limited to the relationship sphere. Thus, personal self-expansion may also promote perceiving one's life as meaningful.

Benefits of Trait and State Personal Self-Expansion for the Relationship. To my knowledge, no empirical research has linked the desire to engage in personal self-expansion (i.e., trait levels of personal self-expansion) to positive relationship outcomes. However, the review of Aron and Aron's (2012) model about the connection between personal self-expansion and meaning in life alludes to potential benefits that state personal self-expansion may entail for romantic relationships. More specifically, the inner growth of both members of a romantic couple appears to be tightly intertwined with close relationships. For example, inner growth has shown to be the beneficiary of conjugal support for self-improvement (Overall, Fletscher, Simpson, 2010). Additionally, research has also shown that shared experiences of self-expansion (i.e., relational self-expansion) and the well-being of romantic relationships are closely linked. For instance, the beginning of relationships may offer many opportunities to expand the self in multiple ways (Aron et al., 2004) and the layperson may call this time period of rapid self-expansion "the honeymoon phase". All experiences with the partner are relatively new, which may lead the individual to self-expand via the discovery of new aspects about themselves (Aron, Paris, & Aron, 1995). Furthermore, many aspects of the partner may be incorporated as novel components into one's own identity (Aron, Paris, & Aron, 1995). This inclusion of the other has been identified as a central route of self-expansion and may involve both cognitive and behavioural changes (Aron & Aron, 2000; Aron, McLaughlin-Volpe, Mashek, Lewanowski, Wright, & Aron, 2004; Aron, Paris, & Aron, 1995). For example, Aron, Paris, and Aron (1995) found that the process of falling in love alters people's self-concepts. More specifically, their results for the variety of the self-concept content indicates that people who recently fell in love showed significantly

greater diversity in their self-concepts compared to those who had not fallen in love (Aron, Paris, & Aron, 1995). They called the process of “falling in love a period of self-discovery” (Aron, Paris, & Aron, 1995, p. 1103); during which people learn new aspects about themselves that they may have not been consciously aware of. Thus, based on the previous literature, self-expansion experienced in the relationship has the potential to be a very positive experience for the couple.

However, it is important to recall that even though the majority of the existing literature has linked relational self-expansion with positive relationship outcomes, Aron and Aron (1986) never implied that only relational self-expansion could benefit romantic couples. Recall from the opening paragraph of this research paper that it was Aron and Aron (1986) who proposed that the optimal couple can be defined as a couple where both partners have reached their maximum self-expansion capacity, not by holding their partner responsible for the provision of self-expansion opportunities but by accepting that no partner would be able to live up to such high standards. Aron and Aron (1986) explained that it requires the personal engagement in inner growth opportunities independent from one’s partner to reach such high levels of consciousness.² Based on this definition of the optimal couple and on the fact that self-expansion has shown to be advantageous for the romantic dyad in the psychological relationship literature, it seems to be logical to assume that personal self-expansion (trait and state levels) will benefit relationships just as much as relational self-expansion has shown to do.

Part 2: Integration

One of the goals of this research is to examine how people integrate personally self-expanding experiences into their relationship and into their self-concept. Up until

now, it is not clear what processes and inner psychological mechanisms help to facilitate the incorporation of expansion experiences into the self-concept or into the relationship. Take the example of David and Sofia once again. David managed that his experience of becoming a talented painter is not only a new aspect of how he views himself, but he also managed to make this growth event a positive experience for himself and his partner. In both instances, he engaged in some form of reflection either on his own or via the discussions with Sofia during which she provided him with feedback. Thus, the current study aims to study *reflection* in and outside of the relationship as the psychological underpinning of Aron and Aron's (1986) integration phase. Therefore, I propose that *self-reflection* may facilitate integration of self-expanding experiences into the self and that *capitalization* (i.e., deriving benefits from sharing good fortune with the partner) may be the psychological mechanism that facilitates the integration of self-expanding information into the romantic relationship.

There is no direct empirical literature on Aron and Aron's (1986) integration phase, however, research has shown that self-expansion is associated with various cognitive changes that may denote the consequences of successful integration. For example, Aron, Aron, Tudor, and Nelson (1991) found that participants would make less of a difference in assigning monetary funds to themselves or to a close friend in comparison to the allocation of the funds to themselves or a stranger, suggesting that the friends' resources are cognitively viewed as similar to their own resources compared the resources of a stranger (Aron, Aron, Tudor, & Nelson, 1991). Furthermore, Aron, Aron, Tudor, and Nelson (1991) displayed in subsequent studies that making the distinction between recalled nouns that were either associated with the self or with the mother was

significantly harder than the differentiation of recalled nouns associated with a stranger. This implies that information processing from the mother's perspective was more similar to processing of information from one's own perspective than to the perspective of a stranger (Aron, Aron, Tudor, & Nelson, 1991). Lastly, they found an increased latency in response and greater confusion when the participant had to decide if the trait was more descriptive of themselves or their spouse due to an overlap of cognitive structures. They believed that the overlap would make it harder to determine whether the trait described themselves or their spouse (Aron, Aron, Tudor, & Nelson, 1991). The cognitive overlap, however, also denotes that the person successfully *integrated* others' resources, perspectives, and characteristics into their own self-concept, and therefore, the cognitive inclusion of the other may be viewed as a direct outcome of a successful integration phase.

However, despite the research on the cognitive inclusion of the other and despite Aron and Aron's (1986) thorough description and explanation of the integration component of self-expansion, researchers still do not know a lot about the internal processes taking place during this phase of the expansion cycle. However, other theoretical frameworks about growth deem an integration phase as the crucial condition without which no personal development can take place.

For example, Csikszentmihalyi (1990) mentioned that complexity of the self, which he equalizes with personal growth, results from an integration stage. Whereas Aron and Aron (1986) made the argument that growth occurs through self-expansion activities, Csikszentmihalyi (1990) called these growth-stimulating activities "experiencing flow". Flow activities are being described as events during which the

person is completely engrossed in the activity. Concentration and focus are completely directed towards that one activity and the person that experiences “flow” can only hardly be distracted while losing a sense for time (Csikszentmihalyi, 1990). As pointed out by Graham (2008), flow and self-expansion activities share many common characteristics. Both theories claim that experiences promoting growth tend to be challenging but intrinsically motivated (Graham, 2008).

Similar to the self-expansion model by Aron and Aron (1986), flow theory suggests that growth occurs through the occurrence of two processes: differentiation and integration (Csikszentmihalyi, 1990). Differentiation refers to experiencing accomplishment and competence after engaging in a flow-like activity (Csikszentmihalyi, 1990). However, in order for the individual to still be in relation to others and not to become self-centered and lonely, the person needs to integrate the through flow newly acquired skills and information into the self (Csikszentmihalyi, 1990). Without successful integration, the individual would not be able to use all the functions that the whole (i.e., summation of new information parts acquired through flow) could provide. According to Csikszentmihalyi (1990), the person feels more in harmony with him or herself, and also with others, after the integration phase is completed. Unlike Aron and Aron (1986) and Graham (2008), who both implied a cyclical motion of growth (i.e., self-expansion or differentiation) and integration, Csikszentmihalyi (1990) proposed that integration could also occur while a person is in a state of flow. He reasons that “flow” demands extraordinary focus and concentration, which greatly organizes the unconscious. Organization of the unconscious makes the unconscious conscious and implies the interplay of old and new knowledge structures - an integrating process (Csikszentmihalyi,

1990). In fact, Csikszentmihalyi and Massimini (1985) deem “flow” as the rewarding and enjoyable outcome with which evolution praises people who have successfully integrated genetic predispositions with culturally socialized skills. According to these researchers, “evolution seems to have built into humans a predisposition to enjoy the integration of the two great negentropic systems of culture and biology into a third system of information in consciousness” (Csikszentmihalyi & Massimini, 1985, p. 127).

Independent from whether the integration of new knowledge occurs before, during, or after the self-expanding activity, the research on a similar activity type (i.e., flow activity) indicates that the integration process is crucial to making the self-expansion process conscious and perceivable as a peak experience of personal growth.

Reflection. By definition reflection implies deep thought processes about an issue at hand (Hornby, 2005). Thus, the person engaging in reflective processes may start to question their own behaviour, others’ reactions, or the conditions under which such behaviours occur. Reflection can also be described as an exploratory mental process, which tends to result in enhanced learning about the respective topic or issue (Boud, Keogh, & Walker, 2013). It highly resembles the cognitive mechanisms assumed to take place during the integration phase of Aron and Aron’s (1986) self-expansion model and, therefore, depicts a great tool to operationalize the integration of self-expansion experiences into the self. The learning processes initiated via reflection can unfold in form of enhanced self-knowledge or as increased knowledge about others or circumstances. Thus, it is important to differentiate between the processes of self-reflection and reflection that involves another person. Both may involve deep thinking about the issue at hand but depending on whether this cognitive work is accomplished in

solitude or stimulated by someone else may lead to different outcomes for the individual, as well as for their relationships.

Self-Reflection. Self-reflection is defined as the “meditation or serious thoughts about one’s character, actions, and motives” (Australian Oxford Dictionary, 2004). In other words, self-reflection requires the individual to question personal behaviours and engage in some self-distancing. All of these are metacognitive processes meant to increase a person’s consciousness. Metacognition is a term often used within the educational psychological literature and is understood as an ability that encourages true learning rather than just studying. Although it has not often been included in close relationship research, it finds its merits within this particular context as well. Some theorists view metacognition as the ability to create and view mental representations of one’s own thoughts as if they were thoughts about another person (Proust, 2010). Thus, it can be understood as taking on an observer perspective to analyze one’s own personal behaviour. Others define metacognitive processes as the ability to mentally self-assess one’s action in the here and now, which allows the person to self-regulate and control their own thinking (Proust, 2010). Independently from how these metacognitive processes function specifically, they all facilitate a cognitive change (i.e., learning about oneself) and illustrate the procedure, which Aron and Aron (1986) called the “look inside”, Csikszentmihalyi (1990) the “vita contemplativa”, or Jung (1993) the “inner integration”. Thus, we believe that personal reflection on self-expansion activities will assist the individual to make sense of their growth experience and to integrate it appropriately through learning from it.

Capitalization. As mentioned above, reflection is not limited to self-reflection but

can also be promoted by a stimulating discussion with another person. As most people tend to share their experiences with their significant others, it is not unreasonable to assume that the partner may often be the conversational counterpart. Thus, we propose that personal self-expansion is beneficial for the relationship if actively and constructively reflected on together with the intimate partner – a thought that resembles key premises of *capitalization* (e.g., Langston, 1994; Gable, Gonzaga, & Strachman, 2006; Gable, Impett, Reis, & Asher, 2004; Woods, Lambert, Brown, Fincham, & May, 2015; Reis, Smith, Carmichael, Caprariello, Tsai, & et al., 2010).

Gable et al. (2004) defined capitalization as the “process of informing another person about the occurrence of a personal positive event and thereby deriving additional benefit from it” (p.228). While the interaction with the other person itself may encourage high levels of reflection and deep thinking about an experience, the capitalization process involves more reflective characteristics than the mere conversational aspect. First, the person trying to capitalize from an experience needs to appraise the experience positively. Appraisal is an evaluative process that involves prior reflection on the event (Langston, 1994). Second, it is crucial that the perceived response is of the expected nature. Gable et al. (2004) categorized the perceived response to capitalization attempts into four possible types (i.e., active-constructive, passive-constructive, active-deconstructive, passive-deconstructive). Research results demonstrated that only when the response of the partner to sharing good fortunate was active-constructive, relational benefits (e.g. increased relationship quality, elevated levels of trust and intimacy) were derived (Gable et al., 2004). All other response types were associated with decreased relationship quality (Gable et al., 2004). Thus, successful capitalization involves two

evaluation processes, one of the event itself and one of the perceived response.

Capitalization is, therefore, a highly reflective undertaking. Moreover, the reflective aspect may be extended beyond the actual occurrence of the capitalization attempt as the reflection with a partner on positive experiences also increased the memorability of the event, which may further strengthen the personal benefits derived (Gable et al., 2004).

Current Study

Previous research has found that there are positive benefits of self-expansion outside and within the relationship (Aron et al., 2000; Graham, 2008; Mattingly & Lewandowski, 2013a; Reissman, Aron, & Bergen, 1993). Nevertheless, there has been little empirical investigation of how personal self-expansion experiences may also benefit close relationships and how they are transferred into the relationship. According to Aron and Aron's (1986) self-expansion model, this transfer requires a period of time during which growth experiences are integrated into the self-concept. Even though this integration process of growth experiences has been acknowledged in several theories explaining the human desire for growth and self-actualization (e.g., Csikszentmihalyi, 1990), no empirical work has examined the role of the integration phase of self-expansion model. Thus, the purpose of this research is to examine a) the consequences of personal self-expansion, and b) the integration phase. In Study 1, I examined the associations between trait levels of personal self-expansion and outcome correlates (i.e., relationship satisfaction and presence of meaning in life) as well as the moderating role of self-reflection and reflection with the partner (i.e. capitalization). In Study 2, I conducted an experiment by manipulating participants' engagement in self-reflection after they had engaged in a self-expanding sculpture activity. I wanted to experimentally examine

whether reflecting about a personally self-expanding event with or without a partner matters for relationship quality and the perception of living a meaningful life.

Rationale

Aron and Aron (1986) defined the optimal couple as two partners that have reached their maximum self-expansion capacity via a combination of relational and personal self-expansion. Given that particularly high levels of relationship satisfaction should characterize the optimal stage for a romantic couple, I predict that personal self-expansion, as a defined pathway towards the optimal stage (Aron & Aron, 1986), will promote the increase in relationship satisfaction.

The predicted link between personal self-expansion and relationship satisfaction also implies that couple members find a way to share their positive growth experiences made in solitude with one another as otherwise these experiences could not benefit the relationship. Based on Aron and Aron's (1986) model and on Fivecoat, Tomlinson, Aron, and Caprariello's (2015) findings that relationship satisfaction only increases if the partner responds actively and constructively to the other partner's self-expansion, I hypothesize that capitalization will moderate the proposed link between personal self-expansion and relationship satisfaction.

Furthermore, I predict that personal self-expansion will also help people to perceive their lives as more meaningful. Mattingly and Lewandowski (2013b) linked the experience of self-expansion outside the relationship with self-efficacy – a construct that has been repeatedly linked to the perception of meaning in life in both research (e.g., Steger & Dik, 2009; Lightsey, Ervin, Boyraz, Rarey, Gharghani, & Maxwell, 2014) and in theoretical reviews (Aron & Aron, 2012). Thus, following Aron and Aron's (2012)

suggestion, I hypothesize that personal self-expansion will promote the presence of meaning in life. Moreover, based on research that has shown that meaning is perceived when a person “intentionally embark[s] on restorative periods to reflect on and integrate material into associative networks that comprise the self”(Kashdan & McKnight, 2009, p. 308), I also hypothesize that the engagement in self-reflection will moderate the association between personal self-expansion and meaning in life.

Thus, my reasoning and rationale allows for two sets of hypotheses, which will be tested in two studies in terms of trait (Study 1) and state levels of personal self-expansion (Study 2). Trait and state levels of personal self-expansion are both included in the research project in order assess whether the effect that a person’s desire to engage in self-expansion might have on relationship satisfaction and meaning in life and the effect that an actual momentary experience of personal self-expansion may have on the two dependent variables could be generalized to one personal self-expansion effect. Additionally, there currently is only a scale assessing trait levels of personal self-expansion available and the examination of state levels may, therefore, be less reliable. The two sets of hypotheses will be the following:

- Hypothesis 1a.) : Personal self-expansion will be associated with increased levels of relationship satisfaction
- Hypothesis 1b.) Capitalizing on a personally self-expanding event will moderate the association between personal self-expansion and relationship satisfaction
- Hypothesis 2a.) Personal self-expansion will be linked to a greater perception of meaning in life

- Hypothesis 2b.) Self-Reflection on a personally self-expanding event will moderate the association between personal self-expansion and the perception of a meaningful life.

Study 1

The purpose of Study 1 was to examine the correlations between trait levels of personal self-expansion, relationship satisfaction and capitalization within the relational context, as well as to examine the associations among trait levels of personal self-expansion, self-reflection, and meaning in life on the level of the self.

Method

Participants. I recruited an American and Canadian community sample ($N = 157$) via the online tool, Crowdfunder. Participants were invited to participate in a 10-minute study called “Personal Growth and Close Relationships” in exchange for 0.50 US dollar compensation (recommended compensation rate at Crowdfunder for a study of this duration). Men and women who were currently involved in a close relationship (i.e., exclusively involved, cohabitating, engaged, married), reside in the United States or Canada, and were at least 18 years of age were invited to participate in this study. From the original sample of 157 participants 32 participants had to be excluded because they indicated that they were either single or just casually dating and another 21 participants had to be removed as they were missing data excessively. Thus, the subsequent analyses were conducted with 104 participants. The sample consisted of almost equal amounts of men ($n = 50$) and women ($n = 53$). One participant chose the option “other” for gender. The age of participants ranged from 19 to 74, however, on average participants were 37.93 years of age. Furthermore, the majority of participants indicated being married ($n =$

63, 60.6%), followed by 24 participants (23.1%) that were seriously and exclusively dating, thirteen participants (12.5%) who reported to be cohabitating with their partner, and four participants (3.8%) who were engaged. Relationship length ranged from 2 months to almost 60 years, however, on average participants had been with their current partner for approximately 9.92 years. Furthermore, the majority of participants ($n = 82$, 78.8%) saw their partner on a daily basis, 19 (18.3%) others saw their partner more than once a week whereas two participants (1.9%) said that they would see their partner only a few times a week and only one participant (1.0%) reported to see his or her partner less than once a month.

Materials and Procedure. In this online, correlational study, I wanted to assess the relations between trait levels of personal self-expansion, self-reflection, capitalization, relational satisfaction, and meaning of life. Following the informed consent form, which outlined participants' compensation and informed them that they could skip parts or end the survey at any point in time, we asked participants to provide basic demographic information (i.e., gender, age, relationship status, how often they see their partner) before completing the main survey. The main survey measured all variables of interest (i.e., personal self-expansion, relationship satisfaction, meaning in life, capitalization, and self-reflection) as well as any variables that we were looking to statistically control for (i.e., need for cognition, positive and negative affect).

Personal Self-Expansion. Participants completed a measure of trait levels of personal self-expansion (Gordon & Luo, 2011). Gordon and Luo (2011) conceptualized personal self-expansion as a composition of the tendency to appreciate novelty and the predisposition to what they called "augmentation". Augmentation refers to the increase of

depth to a self-expanding event (e.g., expanding one's expertise on a familiar topic; Gordon & Luo, 2011). Thus, the Personal Expansion Questionnaire encompasses two subscales: Five items assessing novelty (e.g., *"I am always interested in finding new things to try"*, *"I usually seek out new opportunities and experiences"*, *"Trying new things is important for me to stay happy"*) and five items measuring augmentation (e.g., *"I enjoy gaining a more thorough understanding of something I already know"*, *"Exploring something in depth is usually pretty tedious and boring"* (R), *"Once I have a basic understanding of something, I do not feel it is necessary to learn more about it"* (R)). Participants rated each item on the two subscales on a 5-point Likert scale (where 1 = strongly disagree and 5 = strongly agree).

Capitalization. Participants' perception of their partner's response to their good fortune was measured with Gable, Reis, Impett, and Asher's (2004) Perceived Responses to Capitalization Attempts Scale. The entire scale consists of 12 items, which participants rated on a 7-point Likert scale (where 1 = not at all true and 7 = very true) in terms of how true each statement was for their personal close relationship by completing the sentence *"When I tell my partner about something good that has happened to me..."*. The 12 items were subdivided into four subscales to categorize the nature of the perceived response to capitalization attempt. The four subscales were active-constructive (i.e., *"My partner usually reacts to my good fortune enthusiastically, I sometimes get the sense that my partner is even more happy and excited than I am"*, *"My partner often asks a lot of questions and shows genuine concern about the good event"*), passive-constructive (i.e., *"my partner tried not to make a big deal out of it, but is happy for me"*, *"my partner is usually silently supportive of the good things that occur to me"*, *"my partner says little,*

but I know he/she is happy for me”), active-destructive (“*my partner often finds a problem with it*”, “*my partner reminds me that most good things have their bad aspects as well*”, “*He/she points out the potential down sides of the good event*”), and passive-destructive (“*Sometimes I get the impression that he/she doesn’t care much*”, “*my partner doesn’t pay much attention to me*”, “*my partner often seems disinterested*”).

Self-Reflection. Grant, Franklin, and Langford’s (2002) Self-Reflection and Insight Scale was administered to assess participants’ engagement in self-reflection. The scale comprises two subscales, self-reflection (e.g., “*I frequently examine my feelings*”, “*I frequently take time to reflect on my thoughts*”, “*I am very interested in examining what I think about*”) and insight (e.g., “*It is important for me to be able to understand how my thoughts arise*”, “*I have a definite need to understand the way my mind works*”). Participants rated their agreement to items on both scale on a 6-point Likert scale (where 1 = *strongly disagree* and 6 = *strongly agree*).

Relationship Satisfaction. Additionally, participants also completed Rusbult, Martz, and Agnew’s (1998) Investment Model Scale to measure their level of relationship satisfaction. This measure consists of five different items (i.e., “*I feel satisfied with our relationship*”, “*my relationship is much better than other’s relationships*”, “*my relationship is close to ideal*”, “*our relationship makes me very happy*”, and “*our relationship does a good job of fulfilling my needs for intimacy, companionship, etc.*”) that participants rated on a 9-point Likert scale (where 0 = do not agree at all, 4 = somewhat agree, and 8 = completely agree).

Meaning in Life. Participants also completed the Meaning in Life Questionnaire (Steger, Frazier, Oishi, & Kaler, 2006). This measure is unique in the sense that it entails

two subscales, which allows for the differentiation between the presence of meaning in life (e.g., *“I understand my life’s meaning”*, *“My life has a clear sense of purpose”*, *I have a good sense of what makes my life meaningful”*) in participants’ current life situation and their continuing search for meaning in life (e.g., *“I am looking for something that makes my life feel meaningful”*, *I am always looking to find my life’s purpose”*, *I am always searching for something that makes my life feel significant”*).

Participants were instructed to rate how true the items listed in the questionnaire were for their personal lives. Participants were able to provide their answers by rating the statements from one to seven (where 1 = absolutely untrue, 2 = mostly untrue, 3 = somewhat untrue, 4 = Can’t say true or false, 5 = somewhat true, 6 = mostly true, 7 = absolutely true).

Need for Cognition. In order to control for individual differences in the frequency of engagement in self-reflection, participants were asked to complete the Need for Cognition Questionnaire (Cacioppo, Petty, & Kao, 1984). The need for cognition questionnaire aims to assess a person’s tendency to engage in deep thought processes, which could potentially confound their willingness to partake in self-reflection. The questionnaire consists of 18 items (e.g., *“I would prefer complex to simple problems”*, *“Learning new ways to think doesn't excite me very much”*, *“I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought”*) that participants needed to rate on a 5-point Likert scale (where 1 = extremely uncharacteristic; 2 = somewhat uncharacteristic; 3 = uncertain; 4 = somewhat characteristic; 5 = extremely characteristic) in terms of how characteristic the statement was of their personal preference.

Positive and Negative Affect. Moreover, in order to be able to statistically control for positive and negative affect, participants were asked to complete the Positive and Negative Affect Scale (Watson, Clark, & Tellegen, 1988). Participants had to rate 20 items (e.g., *interested, distressed, excited, strong, inspired, ashamed, guilty*) in terms of how well they described their feelings at the present moment. In order to rate these items participants were given a 5-point Likert Scale where 1 = very slightly or not at all, 2 = a little, 3 = moderately, 4 = quite a bit, and 5 = extremely.

Results

Preliminary Analyses. Before conducting my main analyses, I screened the data for potential outliers by plotting the data of all independent variables as boxplots. The visual inspection of the data signified several potential outliers, which were confirmed by frequency tables of the standardized variables. Data points were identified as outliers when their standardized values fell below the commonly applied cut-off line of 3.29 (Fields, 2013). After identification of the outliers, I tested the outliers for global or local influence. Given that neither of them impacted the data on a local or global scale, I decided to keep the outliers in the data set.

I proceeded by creating aggregated variables for all constructs of interest (i.e., personal self-expansion, relationship satisfaction, search for meaning in life, presence of meaning in life, self-reflection, insight, capitalization, need for cognition, negative and positive affect) by averaging across all scale items. Where applicable, I recoded items to account for reversed scores. I conducted my subsequent analyses of the hypotheses using a composite variable for capitalization. I created this composite variable following the instructions given by Gable, Reis, Impett, and Asher (2004) and subtracted values

obtained for active-destructive, passive-constructive, and passive-destructive responses to attempts of capitalization from values obtained for an active and constructive response to capitalization attempt. For the other measures assessing more than one aspect of a construct, such as the self-reflection and insight scale, the used meaning in life scale, and the PANAS scale, I computed an aggregated variable for each subscale and used those for the subsequent analysis. As well, before testing any interactions, I mean-centered the variables in question.

Descriptive Statistics. The descriptive statistics of the given sample, which are all displayed in Table 1, show that on a Likert-type scale from one to eight, most participants reported to be highly satisfied with their current close relationship as the average fell well-above the midpoint of the scale. The majority of the participants also indicated that they perceived their lives to be moderately to highly meaningful and on average participants reported seeking meaning in their lives to a moderate extent. Additionally, participants showed a moderate need for cognitive complexity as well as moderate levels of self-reflection and insight. Furthermore, the sample showed low levels of negative affect and most participants indicated experiencing reasonable amounts of positive affect. Moreover, on average participants rated the response of their partners' attempts of capitalization to be highly active and constructive and only moderately passive and constructive. The sample indicated low levels of destructive responses to their capitalization attempts. This was true for active and passive destructive responses.

Pearson Correlations. The purpose of this study was to test for possible associations between trait levels of personal self-expansion and two outcome variables, relationship satisfaction and the presence of meaning in life (see Table 2). Results

indicated that personal self-expansion was not associated with either the presence or the search for meaning in life, but weakly associated with relationship satisfaction, weakly to moderately associated with self-reflection, and moderately associated with active-constructive capitalization attempts. Self-Reflection was weakly correlated with the search for meaning in life but not with the presence of meaning, or relationship satisfaction. Lastly, the findings show that capitalization was not correlated with the presence of meaning in life but weakly with the search for meaning in life and moderately with relationship satisfaction, which aligns with the existing literature

Main Analysis. Based on the assumption that engaging in personal growth activities (i.e., experiencing self-expansion without the partner) would be beneficial for the individual in the relational and non-relational context, I tested my two sets of hypotheses using hierarchical regression analyses. The following sections will provide a summary of the results obtained from these regression analyses organized by my hypotheses.

Personal Self-expansion Will Be Associated with Increased Levels of Relationship Satisfaction (Hypothesis 1a). I predicted that self-expansion experienced without the significant other can still be advantageous for relationship satisfaction. In other words, I hypothesized that trait levels of personal self-expansion will enhance relationship quality. I tested this assumption with a hierarchical regression analysis. The first model was significant and explained 4.2 % of the variance in relationship satisfaction. Personal self-expansion was a significant predictor and predicted that relationship satisfaction would increase by .673 for every unit increase in personal self-expansion, $sr^2 = .041$, $b = .373$, $t(103) = 2.11$, $p = .038$. Thus, people who tend to

experience personal self-expansion more often, also appear to be more satisfied in their close relationships. Additionally, I also wanted to assess whether the effect of trait personal self-expansion on relationship satisfaction remained after controlling for capitalization as well as for positive and negative effect. The results of this second regression model showed that personal self-expansion did not remain a significant predictor once capitalization was added. Capitalization was a significant predictor and solely explained 14.59% of the variance in relationship satisfaction, $b = .160$, $t(103) = 4.27$, $p \leq .001$. The overall model was also significant, $R^2 = .188$, $F(2,103) = 11.69$, $p \leq .001$. In other words, those who perceive their partner's response to their capitalization attempts as more active and constructive also seem to be happier with their relationship. This finding aligns with the existing literature on the association between capitalization and relationship satisfaction (Gable et al., 2004).

Capitalization remained a significant predictor even when personal self-expansion, need for cognition, positive and negative affect were held constant, $sr^2 = .13$, $b = .170$, $t(103) = 4.38$, $p \leq .001$. The overall model was also significant and explained 28.2% of the variance in relationship satisfaction, $F(5,103) = 7.70$, $p \leq .001$. The findings for the regression analysis are displayed in Table 3. Thus, the findings partially supported the notion that personal self-expansion is associated with higher levels of relationship satisfaction and the results further align with the existing literature in terms of the link between capitalization and relationship satisfaction.

Successful Capitalization Moderates The Association Between Personal Self-Expansion and Relationship Satisfaction (Hypothesis 1b). I predicted that the link between personal self-expansion and relationship satisfaction would be moderated by

reflecting with one's partner, which I operationalized with successful capitalization attempts. I tested this hypothesis by testing the interaction of personal self-expansion and composite capitalization as a predictor of relationship satisfaction using Hayes' process macro (see Table 4). More specifically, the model, which significantly explained 26.2 % of the variance in relationship satisfaction, $F(3,100) = 11.85, p \leq .001$, contained personal self-expansion, composite capitalization, and the interaction of these two variables as predictors. Personal self-expansion did not significantly predict relationship satisfaction when controlling for capitalization and the interaction, however, capitalization predicted a significant increase in relationship satisfaction, $b = .188, t(100) = 5.07, p \leq .001$. The interaction also emerged as a significant predictor of relationship satisfaction, $b = .198, t(100) = 3.17, p = .002$. Thus, capitalization moderated the association between trait levels of personal self-expansion and people's relationship satisfaction. As can be seen in Figure 1, individuals who were not very successful at capitalizing from their partner's response, showed a significant and steep decrease in their relationship satisfaction levels, $b = -1.37, t(100) = -2.58, p = .011$, the more they desired to engage in self-expansion without their partner compared to those who experienced an average level of capitalization, $b = -.428, t(100) = -2.23, p = .021$. However, people that reported receiving highly constructive and active responses from their partners (i.e., high capitalizers), displayed a trend (although not statistically significant) to be more satisfied with their close relationship if they had a greater desire to engage in personal self-expansion, $b = .519, t(100) = 1.41, p = .161$.

Personal Self-Expansion Is Linked To a Greater Perception of Meaning in Life (Hypothesis 2a). I predicted that people experiencing a greater need to engage in personal

growth in the form self-expansion without their partner would perceive their life as more meaningful. I tested this assumption with a hierarchical regression model, where personal self-expansion was entered at step 1, self-reflection and insight at step 2, and need for cognition, positive and negative affect at step 3. Presence of Meaning in Life was entered as the outcome variable. It is important to note that the variables entered at step 3 (i.e., need for cognition, positive, and negative affect) were only added in order to statistically control for them. The first two regression models were not significant and trait levels of personal self-expansion as well as the reflection subscales, self-reflection and insight, did not yield significant associations with the presence of meaning in life throughout the regression. The third regression model was significant and explained 17% of the variance in participants perception of the current presence of meaning in life, $F(6,103) = 3.30, p = .005$; however, the only significant predictor was positive affect, which was not one of our variables of interest. Thus, the results of this hierarchical regression analysis did not support my hypothesis that personal self-expansion is associated with the perception of a more meaningful life (see Table 5).

Exploratory Analysis. Furthermore, I carried out another hierarchical regression analysis, where the same independent variables were entered in identical sequence but this time predicting participants' current search for meaning in life rather than their perceived presence of meaning. Once again, personal self-expansion remained a non-significant predictor. Yet, once self-reflection and insight were entered at Step two, the regression model became significant and explained 11.7% of the variance in participants' current search for meaning in their lives, $F(3,103) = 4.40, p = .006$. While controlling for personal self-expansion and insight, self-reflection significantly predicted a .471 increase

in the search for meaning in life for every one unit increase in self-reflection, $sr^2 = .09$, $b = .471$, $t(103) = 3.21$, $p = .002$. In other words, the more a person engages in self-reflection, the more he or she will search for meaning in their lives. The third model was also significant, $R^2 = .155$, $F(6,103) = 2.97$, $p = .011$, and importantly, self-reflection remained a significant predictor of search for meaning in life, $b = .532$, $t(103) = 3.51$, $p \leq .001$, even after holding the need for cognition as well as positive and negative affect constant. In fact, after controlling for all other variables, self-reflection still solely explained 10.76% of the variance in participants search for meaning in life (see Table 5). Thus, the more a person engages in self-reflection, the more likely this individual is to search for meaning in his or her life regardless their preference for cognitive complexity or their current mood levels.

Self-Reflection on a Personally Self-Expanding Event Will Moderate The Association Between Personal Self-Expansion and The Perception of a Meaningful Life (Hypothesis 2b). I tested whether or not the interaction of personal self-expansion and self-reflection predicted changes in either the currently perceived presence of meaning in life or in participants' search for meaning in life by using Hayes Process Macro in SPSS (see Table 6). However, the interaction of these variables did not significantly predict either the perceived presence of meaning in life, $b = -.236$, $t(100) = -1.02$, $p = .310$, or search for meaning in life, $b = -.404$, $t(100) = -1.65$, $p = .103$.

In order to be inclusive, I also tested the interaction of personal self-expansion and insight as a predictor for both presence and search for meaning in life; however, once again, no significant results were detected for neither presence, $b = -.239$, $t(100) = -.92$, p

= .360, nor search for meaning in life, $b = -.252$, $t(100) = -.86$, $p = .391$. Thus, we did not find support for Hypothesis 2b.³

Summary

The purpose of Study 1 was to test potential benefits of trait levels of personal self-expansion for the romantic couple as well as for the self on a correlational basis. The results were mixed. Hypothesis 1a (i.e., personal self-expansion associated with increased relationship satisfaction) was partially supported (i.e., as long as I did not account for capitalization). Hypothesis 1b (i.e., capitalizing on a personally self-expanding event will moderate the association between personal self-expansion and relationship satisfaction) was fully supported and emphasized the importance of capitalization for the relational benefits that may come along with the desire to engage in personal self-expansion. The results showed that those who had a greater desire to experience personal self-expansion, experienced decreased relationship satisfaction, if they reported that their partner responds passively and destructively towards their good news sharing. If the partner responded active and constructively, there was a trend that denotes a slight increase in relationship satisfaction for those that desired more personal self-expansion experiences.

The results obtained in Study 1 did not support Hypothesis 2a (i.e., personal self-expansion linked to meaningful life). Instead, exploratory findings indicate that those seeking personal self-expansion also seek for meaning in life. Lastly, no support was found for Hypothesis 2b (i.e., self-reflection on a personally self-expanding event will moderate the association between personal self-expansion and presence of meaning in life).

Therefore, Study 1 shows that romantic relationships may benefit from a partner's

desire to engage in personal self-expansion. As well, the results also highlight the role of the integration phase as the relational benefits were only apparent if close relationship partners had the tendency to react actively and constructively to positive news

Study 2

In Study 2, I extended the findings found in Study 1 by testing the benefits that an actual personal self-expansion experience (rather than just the desire to engage in personal self-expansion) may have in the relational and non-relational context. Additionally, given that Study 2 was an experiment, it elaborated on the correlational findings for the role of Aron and Aron's (1986) integration phase obtained in Study 1, in the sense that the design allowed for conclusions on whether self-reflection as an integrating variable actually caused changes in peoples' perceived levels of meaning in life and relationship satisfaction. In Study 2, all participants took part in a personally self-expanding activity in the lab (i.e., making sculptures with play dough) and were subsequently assigned to one of two reflection conditions (self-reflection vs. no reflection). The outcome variables, relationship satisfaction and perceived meaning in life, were measured at three time points throughout the study (beginning (i.e., T1), immediately after the personal self-expansion activity (i.e., T2), follow-up (i.e., T3). Additionally, the way participants reflected on their experience in the lab with their partner was assessed in the form of capitalization at time of the follow-up. Unlike in Study 1, where participants' perception of responses to capitalization attempts was assessed in general, capitalization in Study 2 was measured with regard to the self-expanding experience made in the lab.

Method

Participants. I recruited 116 student participants from Carleton University. Twelve participants indicated that they were only “casually” and not seriously dating. Given that I was only interested in those seriously dating, I eliminated them from the subsequent analyses. Additionally, I excluded five participants for finishing the sculpture and / or the reflection activity disproportionately quickly, two participants for severe language problems, and another two participants due to an extensive amount of missing data. Thus, the total number of participants whose data I decided to use for all subsequent analyses was 93 (see Table 7). Forty-six participants were randomly assigned to the self-reflection condition and 47 participants to the control group.

The final sample for this study ($N = 93$) consisted of undergraduate students ($n = 80$) included in the Research Participation Pool at Carleton University as well as of 13 participants who came from the greater Carleton community (e.g., upper-year students or staff members). Undergraduate students were recruited via the university internal recruitment platform “SONA”, where participants were invited to participate in a study called “Creative Expression in the Relational Context”. The title of the study is part of the cover story to avoid participants’ suspicion about the true hypotheses of this study bias their performance. The remaining participants were recruited via posters around campus and via word of mouth.

In exchange for their participation, all undergraduate students were able to receive up to 1.0 credit counting towards their final grade in a first or second year class that they were enrolled in at the time. Participants who were staff members or students not currently enrolled in a participatory class were paid \$10 in compensation for their time

spent in the lab. Those who also completed the follow-up questionnaire were included in a draw to win movie theatre tickets (this applied to both Undergraduate students as well as to participants who were members of the greater Carleton Community).

The majority of the overall sample was female ($n = 69$, 74.2%) and one participant chose the “other” gender option. On average participants were 21.89 years old with the youngest participant being 17 and the oldest 53 years old (four participants decided not to reveal their age).

The mean relationship length was $M = 2.73$ years (ranging from 3 months to 16 years) with the majority of the sample indicating that they were seriously or exclusively dating ($n = 67$, 72%), followed by 13 participants (14%) who were cohabitating with their partner, 12 (12.9%) who were either married or in a common law relationship, and one participant (1.1%) that was engaged. Seventy-seven participants (82.8%) were native English-speakers, but 16 participants (17.2%) were not. However, all participants included in the analysis possessed sufficient English speaking skills.

Materials and Procedures. Participants were invited to come to the lab for a study on the link between creativity and happiness in different life domains. This was a cover story as the revelation of the true purposes of this study at this point could have potentially biased participants’ behaviour and responses in the experiment. After baseline values for all variables of interest were obtained, all participants engaged in a personal self-expansion activity (i.e., making a sculpture out of play dough). Participants were randomly assigned to one of two conditions during the sculpture session (self-reflection vs. control) by presenting them with different writing activities. Afterwards, all participants answered follow-up questions that inquired about their experience making

the sculpture and their current affective state. After 48 hours participants received an online follow-up questionnaire via email, which asked participants about whether they had shared their experiences in the lab with their partner and how their partner responded (i.e., capitalization). Subsequently, their relationship satisfaction and perceived presence of meaning in life were measured once again.

Initial Background Questionnaire. First, participants were asked to answer a demographic questionnaire, to complete the *Investment Model Scale* (Rusbult, Martz, and Agnew, 1998), and to fill out the *Need for Cognition* questionnaire (Cacioppo, Petty, & Kao, 1984) as well as the *Meaning of Life Questionnaire* (Steger, Frazier, Oishi, and Kaler, 2006). For a detailed description of each of these measures please refer to Study 1.

Experimental Phase. Participants in both conditions (i.e., self-reflection and control) were supposed to engage in a personally self-expanding activity (i.e., a novel and exciting activity). That is, they were asked to make a sculpture that either represented an aspect of themselves or that was meant to be a piece of art for the Carleton University campus. Then, participants were randomly assigned to one of two conditions: self-reflection and control.

Independent variable. Participants in the experimental condition (i.e., **self-reflection condition**) were asked to create a sculpture that represents who they are using the play dough and utensils provided (i.e., “*If you were asked to create a sculpture that represents who you are, what would it look like?*”). A disclaimer informed participants that the purpose of this study was not to evaluate their creativity or artistic ability in any way but that I was interested in the creative process they engaged in. Thus, they were encouraged not to worry about the end results of their creative work. Additionally,

participants were told that they had complete freedom in regards to how their sculpture should look like and that it was up to them to decide whether or not they wanted to create an abstract or not-abstract form. Participants were given 10 minutes in total to create their sculpture and received a time a reminder after five minutes.

Afterwards, participants engaged in a 10-minute written self-reflection activity. I initiated the self-reflection process by instructing them to explain their sculpture. I also presented them with four questions meant to encourage their self-reflection (i.e., “1.) *Why did you choose to make the sculpture this way (e.g., shape, texture?)*”, “2.) *Which aspect of the sculpture is most important to you?*”, “3.) *Which aspect of the sculpture describes a particular trait you have?*”, “4.) *What do you think this sculpture says about you as a person?*”). Participants were instructed that these questions were merely suggestions that they may or may not want to consider when explaining their sculpture.

Participants in the **control group** were given the exact same conditions and instructions with the exception that their sculpture was meant to be a piece of art for the Carleton campus (i.e., “*If you were asked to create an arts sculpture for the Carleton campus, what would it look like?*”). Participants in the control group were also not meant to reflect on their sculpture. Thus, they were presented with a distraction task to match the conditions. More specifically, their writing activity involved an explanation of their sculpture but their guiding questions were meant to steer them away from any personal thoughts. Thus, the guiding questions given to the control condition asked them to think about how they would convince the president to build their sculpture, which aspect of the sculpture would symbolize the culture at Carleton, which aspect was most important to them, or where on campus would be the most suitable location for their sculpture

Manipulation Check. Given that the existing literature on how to install a sense of personal self-expansion in an individual was limited, the design used in this study to induce feelings of self-expansion within the participant without their partner is novel and has not been used before. In order to verify whether or not the play dough activity had a self-expanding effect on participants, we asked participants to complete an adapted version of Lewandowski and Aron's (2002) self-expansion questionnaire, which inquired about characteristics of self-expansion. Participants answered six questions (e.g., *How much was making the sculpture a new experience for you?* , *To what extent was making the sculpture making you feel a greater awareness of the world around you?* , *How challenging was making the sculpture for you?*) by selecting their answer choice from a 7-point Likert Scale where 1 = not very much, 2 = a little, 3 = Somewhat 4 = To a moderate extent, 5 = considerably, 6 = Much, 7 = Very Much.³

Dependent variables. The dependent variables in Study 2 were relationship satisfaction and the presence of meaning in life. Additionally, participants affect was assessed in order to assert statistical control over it.

I assessed participants' current state of **relationship satisfaction** with face-valid questions with two items pertaining to their relationship satisfaction (i.e., *"I currently feel very satisfied in my close relationship"*; *"There is currently more satisfaction in my relationship than in the average close relationship"*). I instructed participants to rate the extent of accuracy of these statements on another 7-point Likert scale (*where 1 = absolutely untrue, 2 = mostly untrue, 3 = untrue, 4 = can't say true or false, 5 = somewhat true, 6 = mostly true, 7 = absolutely true*). In the instructions, participants were also reminded that these were very subjective questions and that there is no right or

wrong answer.

Moreover, I presented participants with identical instructions and Likert Scale to face-validly assess their current **perception of meaning in their lives** (i.e., “*My life has a clear sense of purpose*”).

Next, participants completed the scale for Positive and Negative Affect (PANAS) by Watson, Clark, and Tellegen (1988) to measure their **affect** in order to control for any possible positive mood biases generated by the self-expansion activity. The PANAS asks participants to rate a list of adjective in terms of their applicability to this particular moment on 5-point Likert scale (where 1 = *very slightly or not at all*, 2 = *very little*, 3 = *moderately*, 4 = *quite a bit*, 5 = *extremely*). Their mood and well-being was also assessed face-validly. Participants were able to select one of five answer choices (i.e., 1 = *not well at all*, 2 = *quite unwell*, 3 = *okay*, 4 = *quite well*, and 5 = *very well*).

At the end of participants’ lab visit, they were partially debriefed. The partial debrief provided them with contact information of any research personnel involved in this study as well as of resources available to them, should they feel uncomfortable in any way after participating in the study. At this point participants were also reminded that they would be contacted via email 48 hours later to complete a follow-up questionnaire. Additionally, the partial debrief explained to participants that hypotheses could not be fully disclosed at this point as a full revelation of the purpose of this study would bias their responses to the follow-up questionnaire. Furthermore, I outlined their compensation once again. I informed participants that they had earned 0.75 credits towards their Research Participation marks up until this point and that they would receive an additional 0.25 credit and enter a draw to win one of two movie theatre tickets if they

completed the follow-up. Participants stemming from the greater Carleton Community received their \$10 compensation before leaving the lab.

Follow-up Questionnaire. All participants were sent a follow-up questionnaire via email 48 hours after their visit to the lab. Participants were reminded at the beginning of the follow-up questionnaire that if they completed this questionnaire they would enter a draw to win one of two \$50 movie theatre tickets in addition to receiving an additional 0.25 credit towards their final mark in either introductory Psychology class. Attrition rates for the follow-up questionnaires were low and 81 participants decided to complete the online follow-up questionnaire.

All participants were asked if they ended up sharing their experience in the lab with their partner. If they indicated that they did share it with their significant other, they were asked to briefly outline how they shared it (e.g., *talked about their experience in person, via text message, briefly mentioned it*). Participants were also asked if they shared it with anybody else than their partner and if yes, how often they shared their experience in the lab. In the event that participants answered that they did share their experience with their close relationship partner, their **capitalization** on the event measured using an adapted version of Gable et al.'s (2004) Perceived Response to Capitalization Scale. Here, the items of the scale had been adjusted so that they were specifically catered towards the participant's experience in the lab (e.g., *"My partner reacted enthusiastically when I told him/her about my ideas that came up during the exercises I recently completed in the lab"*, *"My partner asked a lot of questions and showed genuine concern about my thoughts and ideas that I generated during the experiment"*, *"My partner reminded me of the good and bad aspects of my ideas that I came up with during the*

experiment”). Subsequent to completion of the Perceived Response to Capitalization Scale (Gable et al., 2004), participants filled out the *Investment Model Scale* (Rusbult, Martz, and Agnew, 1998), and Steger, Frazier, Oishi, and Kaler’s (2006) *Meaning in Life Questionnaire*. Both measures were used and described in Study 1.

Participants were provided with a full debriefing form either right after they completed the follow-up questionnaire, or in case that they chose not to fill out the follow-up questionnaire, 24 hours after the follow-up questionnaire was sent to them. At this point participants were thanked for their participation and they were informed of the true hypotheses that this study intended to test rather than those the cover story had claimed to be the focus of this research project. The full debrief also contained an explanation for why their involvement was important for this research project, other researchers, and the general public. Additionally, the full debriefing form once again listed all contact information of the research personnel involved in this study and other services available to them should they feel any discomfort after taking part in the study. Furthermore, participants were reminded that their name was to be entered in a draw for a prize and that they were given an additional 0.25 credit towards their final mark if they were enrolled in a participating class.

Results

Preliminary Analysis. The same preliminary procedures described in Study 1 were carried out. I also examined the data in Study 2 for outliers (at the condition level) and three outliers were identified. The results remained the same when they were excluded from the analyses and a decision was made to retain them in the data set. Normality and independence of data were assumed. This study also employed a new

method to induce states of personal self-expansion. I will first present preliminary results assessing the usefulness of the method in inducing state levels of personal self-expansion before discussing to the main analyses.

Effectiveness of The Personally Self-Expanding Lab Activity. The idea to use play dough to induce momentary feelings of personal self-expansion was meant to incorporate the aspect of personal growth more and was intended to provide participants with a novel, unusual, and engaging experience that carried some kind of meaning for them. Based on the answers to the questionnaire, the majority of the participants felt that making the sculpture was a moderately new experience for them, it moderately increased their feelings for a greater awareness of the world around, and it also moderately enlarged their perspective on things (see Table 8). In addition, the majority of participants reported that making sculpture helped them expand their sense of the kind of person they are to considerable extent although their ratings for how much they learnt new about themselves by making the sculpture only reached “somewhat true” levels. Despite item 4 (i.e., “*How challenging was making the sculpture for you?*”) there were no significant group differences among these self-expansion items. Participants in the control group found making the sculpture to be more challenging ($M = 3.64, SD = 1.88$) than participants in the experimental condition ($M = 2.70, SD = 1.53$), $t(91) = -2.65, p = .010$.

The fact that all items’ ratings are well above the midpoint of the 7-point scale suggests that the design did initiate some personally self-expanding processes in the participants. In order to further substantiate this claim, I conducted a reliability analysis. The analysis revealed a Cronbach’s $\alpha = .871$. Thus, I computed an average variable for state levels of personal self-expansion by aggregating across items 1,2,3,5, and 6. In the

subsequent analyses, I used this newly aggregated variables as well as item 3 (i.e., *How much did making the sculpture help you expand your sense of the kind of person you are?*“) as a face-valid variable to test the effect of personal self-expansion on relationship satisfaction and meaning in life. I am going to refer to item 3 as *the expanded sense of self*.

Descriptive Statistics. Overall, participants reported moderately to high levels of relationship satisfaction throughout the duration of the lab and online components of the study (see Table 7). All participants also described their lives to be moderately to very meaningful even though majority of them also had strong intentions to search for meaning in their lives. Levels of cognitive complexity were above the midpoint of the five-point scale and reflected a moderate need for cognition. Furthermore, the overall sample showed average levels of positive affect and low levels of negative emotions. Lastly, participants described their state of self-expansion as moderate.

The descriptive statistics for all variables of interest show that there were no significant differences between the experimental group and the control group in terms of relationship satisfaction, presence or search for meaning in life, state levels of self-expansion, need for cognitive complexity, or positive affect (see Table 9). However, participants in the control group reported significantly more negative emotions than participants assigned to the experimental condition, $t(91) = -2.30, p = .024$, even though both groups still remain in the *not at all* to *a little* range.

Correlations. Pearson correlations (see Table 10) show that state levels of personal self-expansion were not significantly correlated with relationship satisfaction at any point throughout the study but positive, moderate, and significant associations were

found between personal self-expansion and meaning in life at T1 and T2. Additionally, there was a significant, moderate, and negative correlation between personal self-expansion and the difference score in perceived meaning indicating that those individuals who experience more personal self-expansion tend to show a diminished difference in their meaning levels measured at T1 and T2.

Main Analyses. Study 2 was conducted with several purposes in mind. The first goal was to empirically test *the benefits of personal self-expansion* for romantic couples and for the self (i.e., Hypotheses 1a & 2a). The second goal was the experimental examination of the role of Aron and Aron's (1986) *integration phase* (i.e., Hypotheses 1b & 2b). Recall that the amounts of personal self-expansion will be assessed with aggregated variable derived from the manipulation check questions as well as with the face-valid variable, *the expanded sense of self* (i.e., item 3 of the manipulation check).

The Effects of Personal Self-Expansion on Relationship Satisfaction and the Role of Capitalization (Hypotheses 1a to 1b). I predicted that the engagement in a personally self-expanding activity (i.e., making a sculpture) would increase levels of relationship satisfaction (i.e., from pre-levels to post-levels) across conditions. Using paired samples t-tests I tested the differences in levels of relationship satisfaction and found significant differences between baseline relationship satisfaction ($M = 6.78$, $SD = 1.05$) and levels of relationship satisfaction at T2 ($M = 6.35$, $SD = 1.57$), $t(92) = 3.59$, $p = .001$. The findings indicate that there was a decrease in relationship satisfaction after engaging in the self-expansion task, which counters my hypothesis. The difference was sustained over time as relationship satisfaction levels reported after 48 hours ($M = 6.44$, $SD = 1.55$) also differed significantly from relationship satisfaction levels at T1, $t(80) =$

4.02, $p < .001$. There was no difference between relationship satisfaction at T2 and relationship satisfaction at T3. Given that I only face-validated assessed relationship satisfaction at T2 but used the validated and complete scale at T1 and T3, it is possible that the decrease in relationship satisfaction was due to the different measurement scales. Alternatively, the results could also suggest that the change in relationship satisfaction from the baseline level could potentially be attributed to the personally self-expanding activities carried out by participants in the lab. Yet, the change in relationship satisfaction does not support Hypothesis 1a, which implied a positive association and impact on relationship satisfaction.⁴

Another central component of this research project was the empirical examination of whether the extent of integration of personally self-expanding events with one's partner would impact the association between personal self-expansion and relationship satisfaction (i.e., Hypothesis 1b).⁵ Thus, I proceeded to examine how important the successful integration of personal self-expansion experiences was for the couple by comparing the correlations obtained for those who shared their experience to the correlations of those who did not. I found that those who shared their experience with their partner showed very weak negative correlations between *the expanded sense of self* ($r = -.192$) and relationship satisfaction at T3 (i.e., at time of the follow-up), as well as between the composite self-expansion variable ($r = -.103$) and relationship satisfaction at T3. A Fisher's r to z transformation showed that the correlation was not stronger in the group that shared the experience with the partner compared to those who did not share, $z = -.2$, $p = .842$. However, these findings should be treated with caution as the majority of participants ($n = 67$) shared the event in the lab with their partner and only very few

($n=14$) did not.

In Hypothesis 1b, I also considered that the way the partner may respond to the participant sharing their personal self-expansion experience matters. Thus, I had predicted that a more active and constructive response from the partner would impact the association between relationship satisfaction as in the case with trait levels of personal self-expansion in Study 1. I examined this prediction by testing whether capitalization partially accounted for some of the variance in the association between personal self-expansion and relationship satisfaction at T3. Thus, I carried out a mediation analysis using Hayes' PROCESS Macro (model 4) in SPSS. Note that I limited the mediation analyses to the variance in relationship satisfaction at time of the follow-up (i.e., T3) because capitalization was only measured at T3. The analysis revealed that the indirect effect of state levels of personal self-expansion on relationship satisfaction through capitalization was not significant, $b = -.01$, BCa CI [$-.128, .092$] and did not reveal a significant effect, $\kappa^2 = -.01$, $z = -.17$, $p = .863$. Thus, there is no significant mediation present. The results were also not significant when controlling for need for cognition, positive, and negative affect as covariates.

Next to the benefits that personal self-expansion may have for the romantic dyad, another purpose of this research was to generate empirical knowledge about the benefits personal self-expansion may have for the self.

The Effect of Personal Self-Expansion on the Presence of Meaning in Life and the Role of Self-Reflection (Hypotheses 2a to 2b). It was predicted that personal self-expansion enhances the perception of meaning in life (i.e., Hypothesis 2a.). There were weak to moderate associations between face-valid self-expansion variable, *the expanded*

sense of self, and meaning in life measured before and after making the play dough sculpture (see Table 10). The significant link between *the expanded sense of self* and T2 (i.e., after the play dough activity) ($sr = .161$) was even maintained after controlling for need for cognition as well as positive and negative affect. In other words, those that found that making the sculpture helped them to expand their sense of self, reported that their life had a higher sense of purpose. The correlation decreased in strength and was no longer significant when tested with average personal self-expansion ($sr = .139$) while also holding need for cognition and affect constant. There was still a weak correlation between personal self-expansion and the presence of meaning in life at T3, however, the correlation with *the expanded sense of self* ($sr = .114$) and with the average personal self-expansion score ($sr = .087$) were weak.

I further tested Hypothesis 2a.) by carrying out a hierarchical regression analyses where I entered perceived presence of meaning in life at T2 as the dependent variable and *the expanded sense of self* as a predictor, while controlling for need for cognition and positive and negative affect in subsequent steps. Results revealed that *the expanded sense of self* was a significant predictor of perceived presence of meaning in life at time 2, $b = .184$, $t(92) = 2.67$, $p = .009$, and solely explained 7.3% of the variance in the dependant variable, $F(1,92) = 7.11$, $p = .009$. Thus, those who found making the sculpture helpful to expand their sense of self, experienced .184 more meaning their lives per one unit increase in self-expansion immediately after engaging in the activity. However, after controlling for need for cognition as well as positive and negative affect, the association was no longer significant (see Table 11).

I repeated the same analysis but substituted *the expanded sense of self* with the aggregated personal self-expansion variable. While personal self-expansion predicted perceived meaning in life measured at T2 in step 1 of the model, $b = .214$, $t(92) = 2.41$, $p = .018$, and significantly explained 6% of the variance, $F(1, 92) = 5.78$, $p = .018$, the composite score for state levels of personal self-expansion did not remain a significant predictor of perceived presence in meaning in life after controlling for need for cognition as well as positive and negative affect (see Table 12).

Subsequently, I tested whether the significant association of personal self-expansion on perceived presence of meaning in life could be sustained over time. I carried out yet another hierarchical regression analysis with *the expanded sense of self* as a predictor and perceived presence of meaning in life at time of the follow-up (i.e., T3) as an outcome variable. Results were not significant (see Table 13). I repeated the analysis using the aggregated personal self-expansion but the findings here were also not significant (see Table 14). Thus, while there was a significant association between state levels of personal self-expansion and meaning in life immediately after experiencing personal self-expansion, this benefit for the individual could not be sustained over time. In order to be able to elaborate on the role of Aron and Aron's (1986) role of integration, I had also predicted that successful integration through self-expansion would facilitate benefits for the self (i.e., Hypothesis 2b.). In other words, those participants given the opportunity to self-reflect on their sculpture would perceive their life as more meaningful after engaging in the personal self-expansion activity compared to those who did not have the chance to self-reflect but were presented with a distraction task. Given that I also wanted to assert statistical control over potentially confounding variables, I carried out a

univariate analysis of variance where I entered positive and negative effect as well as the need for cognition as covariates and tested the difference in perceived meaning in life immediately after the play dough activity among the experimental and the control group. Results revealed no significant differences among groups implying that participants in both conditions perceived their life equally meaningful before, immediately after, and 48 hours after participating in the study.

However, even though participants in both groups reported similar levels of meaning in life throughout the study, I tested whether participants rated their lives as more or less meaning full after engaging in the self-expanding activity and whether this change in perceived meaning in life could vary as a function of self-reflection. Thus, I computed a difference score of meaning in life at T1 and levels of meaning in life assessed at T2 and tested whether there was a greater change in the perception of meaning depending on the groups using an independent samples *t*-test. Findings showed that the amplitude of change in perception of meaning in life, indeed, varied as a function of self-reflection, $t(91) = -2.33, p = .022$. This significant effect was of medium size, $d = .48$. Thus, those in the experimental condition ($M = -.12, SD = .76$) perceived their life to be slightly more meaningful after engaging in the personal self-expansion task and reflecting on their experience sub sequentially compared to those who were engaged in the personal self-expansion task but were sub sequentially presented with a distraction task ($M = .28, SD = .90$). In fact, participants in the control group reported a significant decrease in their perception of meaning in life as shown by a paired-samples *t*-test within the condition, $t(46) = 2.14, p = .038$. Given that participants' perception of meaning in life could potentially be influenced by positive emotions or their personal preference of

cognitive complexity, I tested this effect a second time using a univariate analysis of variance in order to be able to control for potential covariates. Results of the analysis second the findings of the independent-samples t-test and showed that participants, indeed, experience more or less of a change in how meaningful they perceived their lives to be depending on the condition they had been assigned too, $F(1,93) = 9.10, p = .003$.

Summary

Results obtained in Study 2 for Hypothesis 1a (i.e., personal self-expansion will be associated with increased levels of relationship satisfaction) were conflicting. On the one hand, there was a weak but significant positive semi-partial correlation among the expanded sense of self and relationship satisfaction measured after the play dough activity supported the predicted direction. On the other hand, there was a significant decrease in the amounts of relationship satisfaction from before to after the self-expanding event, which refutes Hypothesis 1a (although see the General Discussion for further discussion. No support was found for Hypothesis 1b (i.e., capitalizing on a personally self-expanding event will moderate the association between personal self-expansion and relationship satisfaction) even though majority of participants who completed the follow-up shared their self-expanding experience with their partner.

The findings of Study 2, however, support Hypothesis 2a (i.e., personal self-expansion may also be linked to having a meaningful life). Those participants, who felt that the activity expanded their sense for what kind of person they are, also reported a greater presence of meaning in their lives. These results were further enhanced by the evidence found to support Hypothesis 2b (i.e., self-reflection on a personally self-expanding event moderates the association between personal self-expansion and

perceived meaning in life). The findings showed that those who did not get the chance to self-reflect on their personally self-expanding activity of making a sculpture experienced found their lives to be significantly less meaningful compared to those who were given the chance to self-reflect. In other words, the results in Study 2 support the notion that self-reflection following a self-expanding experience is key in order to derive benefits from it for the self. In other words, these research findings highlight the importance of the contemplative process described in the second phase of Aron and Aron's (1986) self-expansion model.

General Discussion

The present research assessed personal self-expansion (i.e., trait, Study 1; state, Study 2) in order to a) test its benefits for the self and the relationship and b) to empirically assess its integration into these two entities (i.e., self and relationship) via reflection. It was found that people who have the natural tendency to seek out personal self-expansion opportunities also report greater levels of relationship satisfaction but do not tend to find their lives to be more meaningful (Study 1). Momentary short experiences of personal self-expansion, on the other hand, appeared to help people to perceive their lives as more meaningful even if their satisfaction with their current romantic relationship was not clearly associated with their experience of a personally expanding event (Study 2).

In regard to the integration of personal self-expansion into the self and into the relationship, based on the current findings the role of integrating personally self-expanding experiences seems to matter when wanting to derive relational benefits from trait levels of personal self-expansion, as those who received an active and constructive

response tend to report greater satisfaction levels. Successful integration via self-reflection seems to matter when wanting to derive benefits for the self from momentary and short personal self-expansion experiences as people who were able to reflect on their momentary personal self-expansion event reported a positive change in their levels of meaning in life.

Personal Self-Expansion and Romantic Relationships

The results for Hypothesis 1a, in which I predicted that personal self-expanding experiences were associated with enhanced relationship satisfaction, were mixed. Trait levels of personal self-expansion were positively associated with relationship satisfaction (Study 1), implying that those having a higher desire to engage in personal self-expansion also have greater relationship satisfaction. This positive correlation may reflect the tendency for those seeking personal self-expansion opportunities to also be open to new experiences and to be generally low in neuroticism (Gordon & Luo, 2011). Having an open personality and being low in neuroticism has been shown to be advantageous for relationship quality (Donnellan, Conger, & Bryant, 2004), and thus, it seems reasonable that the desire to experience personal self-expansion may also benefit relationship satisfaction.

However, this positive relationship was not replicated with state levels of personal self-expansion (Study 2). In fact, the data in Study 2 indicated a slight, yet significant, decrease in the amount of relationship satisfaction when comparing baseline levels to levels obtained immediately after the self-expanding experience as well as after 48 hours. While I currently lack a profound explanation for why people may have rated their relationship to be less satisfactory after creating a sculpture and subsequently reflecting

on it, these findings may be indicative of how people attempted to anticipate their partner's reaction to their experience. Thoughts such as "*I wish my partner would see me this way*", "*I think my partner would disagree with my sculpture*", or "*This is fun, I wish my partner and I would engage in a novel and creative activity like this together*" may have come to people's minds and revealed to the participants that their relationship may actually lack in mutual or relational self-expansion. A lack of relational self-expansion, on the other hand, has shown to be detrimental to relationship quality in previous studies (e.g., Lewandowski & Ackerman, 2006; Reissman, Aron, & Bergen, 1993). Therefore, an increased awareness of the absence of relational self-expansion due to the experience of a personal self-expanding event seems to be a plausible reason for the reduced levels of relationship satisfaction found at post the play dough activity and at time of the follow-up.

Next to these more conceptual reasons for why people may have felt less satisfied with their relationship after engaging in the play dough and writing activities, the reason for this phenomenon may also lie in the different measures used to assess relationship satisfaction. Due to concerns of participant fatigue, I only included a face-valid variable for the measurement of relationship satisfaction immediately after the self-expanding activity. It is possible that this variable did not fully capture participants' satisfaction levels and, therefore, its mean may not be entirely representative.

The Importance of Active and Constructive Capitalization for the Relational Benefits of Trait Levels of Personal Self-Expansion. I predicted that capitalization on a personally self-expanding event would moderate the association between personal self-expansion and relationship satisfaction. In particular, I expected that an active and

constructive response from a partner to self-expansion experienced by the other partner would lead to increased satisfaction levels. Results in Study 1, which was obtained from data of an older community sample, supported my prediction that that an active and constructive response from a partner moderates the link between trait levels of personal self-expansion and relationship satisfaction. More specifically, results in Study 1 revealed that that the positive link between trait levels of personal self-expansion and relationship satisfaction only held true if the partner responded in an active and constructive manner to their positive experiences. If that was not the case and the partner responded in a more passive and/or destructive manner, those individuals that tend to seek a lot of self-expansion on their own, tended to be dramatically less satisfied with their relationship. Thus, these results align with the findings presented in the existing literature on capitalization and self-expansion (Fivecoat et al., 2014). In particular, Fivecoat and colleagues (2014) had found that people who received active and constructive support after experiencing self-expansion, rated their relationship satisfaction as significantly higher. Furthermore, the results highlight the importance of the *integration phase* for benefits of trait levels of personal self-expansion for the romantic dyad and further underline the idea that Finkel et al.'s (2014) suggestion to simply look for growth experience outside the relationship is not sufficient in enhancing relationship quality.

Results for state levels of personal self-expansion obtained in Study 2 did not support the hypothesis. The lack of significant findings in Study 2, however, could possibly be explained by the fact that majority of the sample were Undergraduate students who were engaged in short-term relationships. Previous research conducted by Fivecoat and colleagues (2014) showed that relationship satisfaction does not vary as a

function of either partner support or task type (e.g. self-expanding vs. stressful task) in short-term couples.

Personal Self-Expansion and Meaning in Life

Given that relational self-expansion is assumed to be very beneficial for both the individual (e.g., Aron, Paris, Aron, 1995) as well as for the couple (e.g. Aron et al., 2000; Le, Dove, Agnew, Korn, & Mutso, 2010), it was predicted that personal self-expansion would promote the perception of a meaningful life (i.e., Hypothesis 2a). Based on Aron and Aron's (2012) theory that self-expansion promotes having a purpose in life due to its self-efficacious functioning, it seemed logical to predict that having enhanced levels of meaning in life may be one of the positive outcomes for those individuals that have the natural tendency to self-expand more often or for those who make a momentary experience of self-expansion. However, the results derived from the data in studies 1 and 2 were mixed and only partially supported the hypothesis that personal self-expansion enhances the presence of meaning in life.

Trait levels of Personal Self-Expansion and The Presence of Meaning in Life.

In particular, results obtained in Study 1 showed that there was no significant association between trait levels of personal self-expansion and the presence of meaning in life. One possible explanation for the lack of significant findings may lie in the scale used to assess trait levels of personal self-expansion. Gordon and Luo's (2011) scale is the first of its kind and it assesses a person's natural predisposition to seek out personally self-expanding events (e.g., *"I am always interested in finding new things to try"* or *"I usually seek out new opportunities or experiences"*). The words "seek out" are key as they denote that Gordon and Luo's (2011) scale does not provide any information about

the extent to which an individual actually self-expands on their own terms. In order to draw any conclusions about how much a person personally self-expands, Gordon and Luo (2011) would have needed to phrase the items in their questionnaire in terms of frequency (e.g., “*how often do you find new things to try?*”), yet their rating scale asked participants to indicate their extent of agreement with the statement. Statements, specifically in the novelty subscale, are therefore, rather referring to participants’ tendency to look for personal self-expansion opportunities. However, seeking personal self-expansion opportunities is not the same as experiencing it, and thus, the association between trait levels of personal self-expansion and the search for meaning in life seems to be more logical in hindsight.

State Levels of Personal Self-Expansion and the Presence of Meaning in Life.

The hypothesis that personal self-expansion also leads to the perception that life is more meaningful was also tested with momentary experience of personal self-expansion in Study 2. The results of Study 2 indicated a weak positive correlation between the perceived presence of meaning in life and one item of the manipulation check for state levels of personal self-expansion, in particular, the expanded sense for the kind of person one is. This association was not replicated when using the aggregated state levels of personal self-expansion variable. The significant findings between meaning in life and the explicit perception of an expanded sense of self may be explained from an existentialistic viewpoint. “From the viewpoint of an existentialist, one’s self-understanding is the central orienting meaning framework that allows us to navigate our environment “(Proulx, 2013, p. 75). In other words, the self in itself represents the most important meaning framework that guide our life decisions. Therefore, expanding the self

is a meaning enhancing process in the existentialistic mission (Schlegel, Hicks, Kind, & Arndt, 2011), which is precisely what the findings in Study 2 allude to. It is not the other aspects that were included in the aggregated self-expansion variable such as novelty (e.g., “*How much was making the sculpture a new experience for you?*”), learning (e.g., “*How much did you learn something new about yourself by making a sculpture?*”) or an awareness for the outside world (e.g., “*To what extent was making the sculpture making you feel a greater awareness of the world around you?*”), that creates a meaningful contribution to the self, it was the explicit experience of expanding the sense of self. From an existentialistic perspective enlarging the self means enlarging the core meaning framework of a person, and therefore, personal self-expansion may represent a direct contribution to a person’s meaning framework. This explanation for the significant findings for the association between the *expanded sense of self* and meaning in life specifically is also supported by empirical research conducted by Delle Fave, Brdar, Wissing, and Vella-Brodrick (2013). Delle Fave, Brdar, Wissing, and Vella-Brodrick (2013) found that participants across cultures called personal growth to be an excellent source for meaning and when asked for their motives to identify personal growth as a source for meaning, majority of participants said that it was the self-transcendent experience, which allowed them to expand until the self would encompass a larger perspective on their lives.

However, it is important to note that the *expanded sense of self* only predicted increases in people’s perception of a meaningful life when I did not statistically control for positive and negative affect or for the individual difference regarding the need for cognitive complexity. Yet, based on previous research, we know that self-expansion can

be distinguished from positive emotions (Graham, 2008) and from learning (Mattingly and Lewandowski, 2014a). Even though learning is not identical to the need for cognition, the need for cognition includes many aspects of learning. Thus, the inability to obtain significant findings for the link between the expanded sense of self and presence of meaning in life when affect and the need for cognition were held constant, may rather be due to the fact that inducing states of personal self-expansion is rather difficult in the lab. As a result, the effect of state levels of personal self-expansion may be too small in order to remain significant when controlling for other similar variables.

The Role of Integrating Personal Self-Expansion into the Self to Experience

Meaning. In Hypothesis 2b I had predicted that integration of personal self-expansion via self-reflection would enhance the link between personal self-expansion and the presence of meaning in life. The results of Study 1 were not supportive of the hypothesis that self-reflection moderates the link between personal self-expansion and the presence of meaning in life. However, findings obtained from Study 2 were more promising and partially supported the suggested importance of Aron and Aron's (1986) integration phase of the self-expansion model. More specifically, whereas there were no differences in the amounts of perceived meaning in life to be found in Study 2, those that were given the option to reflect on their self-expanding experience showed a greater positive change in their amounts of meaning in life while those who were not given the chance to reflect reported a decrease in their levels of perceived meaning. Aron and Aron (1986) had argued that in order to be able to benefit from self-expansion, a person must first be able to recognize a self-expansion experience when it presents itself. The process of recognition and making sense out of the experience is the purpose of what Aron and Aron

(1986) called the integration phase. Similar to self-expansion, meaning making is very much a cognitive process (Cosmelli & Ibanez, 2008) and because of this, recognizing the potential of meaning in a personally self-expanding event may require a time of self-reflection. Thus, the significant difference in the direction and amplitude of change of perceived meaning between the two groups in Study 2 serves as initial empirical evidence for the need of an integration phase and also support previous research findings. Kashdan and McKnight (2009) claimed that self-expanding behaviours such as curiosity and the interest in novelty would help people to explore their passions. However, not all passions will provide individuals with the same amount of purpose and meaning, and therefore, not all self-expanding events are strong enough to hold the experimenter's attention and to capture the full meaning spectrum (Kashdan & McKnight, 2009). According to Kashdan and McKnight (2009) the attention can be restored, however, and the event can be recognized as an enlightening experience when there is the opportunity for self-reflection and integration. Based on the fact that the majority of participants reported that making the sculpture was an enjoyable and pleasant experience (independent from the condition they were in), it can be argued that those who were able to self-reflect on their work were able to capture the attention and subsequently assign meaning to the experience like it was implied by Kashdan and McKnight (2009) unlike those participants who were unable to self-reflect on their sculpture.

Advancements to the Literature

Extension of the Literature on Personal Self-Expansion. The idea of experiencing an expansion of the self outside of the romantic relationship context is not novel as it appears in several motivation frameworks developed by several theorists (e.g.,

Aron & Aron, 1986; Csikszentmihalyi, 1990; Jung, 1993; White, 1959). Each theorist also attributed personal self-expansion a significant role in an individual's pursuit towards a state of self-actualization and deemed it a necessary mechanism that would protect people from holding others responsible for their own development and inner growth. However, empirical research on the topic of personal or non-relational self-expansion is very limited. Researchers such as Gordon & Luo (2011), Mattingly and Lewandowski (2013a; 2013b; 2014a; 2014b) were among the first to recognize that an empirical examination of self-expansion outside the relational context is necessary. They focused on the assessment of the construct itself and clarified that personal self-expansion does exist, that it may be triggered by the engagement in novel and exciting activities (Mattingly & Lewandowski, 2013a), and that it may involve similar cognitive mechanisms as relational self-expansion (Mattingly & Lewandowski, 2014b). In addition, they also made initial suggestions for possible correlates, such as high levels of openness to experience (Gordon & Luo, 2011) or increased self-efficacy (Mattingly & Lewandowski, 2013b), which may come along with engagement in self-expanding activities without the partner. However, up until now, Fivecoat and colleagues (2014) were the only ones who recognized and examined potential relational outcomes of personal self-expansion. Their research made a significant contribution to the literature by examining the role of the partner's response to a personally self-expanding event similarly to the current research. Yet, Fivecoat et al. (2014) did not directly account for the association between personal self-expansion and relationship satisfaction as their focus was on the link between partner support towards a personal self-expansion event and relationship satisfaction. Moreover, they did not pay particular attention to benefits

for the self that a person may be able to derive from a personal self-expansion experience. Thus, this study is the first to my knowledge that considered direct outcomes of personal self-expansion in terms of increased levels of relationship satisfaction and perception of meaning in life. Additionally, this research is the first to include tests of trait as well as of state levels of personal self-expansion to assess its various benefits.

Empirical Examination of the Integration Phase. This study was also the first of its kind that empirically examined Aron and Aron's (1986) integration phase. Even though there is a reasonable amount of theoretical discussions on its role, the present findings are the first to show that the integration phase actually impacts the association between personal self-expansion and its benefits. Based on the insight provided by the current results that seeking personally self-expanding experiences outside the relationship is not helpful for relationship maintenance if the experiences are not integrated into the relationship, Finkel et al's (2014) suggestion to find personal growth outside the relationship needs to be extended by the inclusion of the role capitalization (aka integration) in order to improve relationship quality.

In order to react actively and constructively as implied by the current results, both partners need to have a true comprehension of the impact that a personal self-expansion experience has on their partner and on their perception of the world around them if they both are to benefit from the experience. It is very challenging to explain this type of experience to someone who has not had such a powerful experience him or herself. A partner who may not have had many personally self-expanding experiences him or herself and who may not know what such peak experiences in one's personal development towards self-actualization feels like, may simply not be able to provide their

self-expanded partner with a response that helps them to make sense out of their growth experience. However, the way capitalization was conceptualized here (i.e., as a way of integrating self-expanding experiences into the relationship), its main function was to aid the partner to reflect on the experience, to make sense out of it, and to recognize it as a self-expanding experience. If the partner cannot appreciate the scope of the experience, however, he or she cannot recognize the growth potential that this event may have for their partner as well as for their relationship and the possibility to enhance relationship satisfaction levels by sharing this event is lost. It is precisely this circumstance that Jung (1993) tried to explain when he developed his theory of “inner integration”. He referred to the issue as the problem of the “container” and the “contained”. Just like the findings of Study 1 show, Jung (1993) argued that personal growth in the relationship can become problematic if the partners are not equals in their desire to grow. Whereas one partner might be able to satisfy their entire need for growth in the relationship (i.e., the contained), the other’s (i.e., the container) desire for self-actualization and for understanding higher order affairs (e.g., “why am I who I am?”) may never be fully satisfied by the less complex partner (Jung, 1993). Jung’s (1993) solution to this problem was a call for a look inside to experience growth within oneself and to accept that this may not be shared with the partner.

The findings of the current study, which are the first to truly highlight the importance of actively and constructively *integrating* growth experiences into the romantic relationship, however, seem to be more in line with Aron and Aron’s (2014) suggestion of “insourcing” as a solution to the dilemma described in Finkel et al.’s (2014) marriage suffocation model. With the term “insourcing” Aron and Aron (2014) referred

to the positive impact that a partner's independent progression of satisfying their higher order needs via personal work on their mental health could have on their marriage. Unlike Finkel et al.'s suggested approach of outsourcing (e.g., finding self-expansion in a life domain independent from one's marriage), Aron and Aron's (2014) insourcing approach appears to better accommodate the principle of a union between self-expanding action and inner integration that was suggested by Aron and Aron's (1986) original concept of self-expansion. Aron and Aron (2014) align with Finkel et al. (2014) and Jung (1933) by implying that solitude is valuable to the romantic relationship, however, Aron and Aron's (2014) proposed function for the time spent alone differs greatly from the other theorists. Instead of searching for growth opportunities without the partner, Aron and Aron (2014)'s suggestion to work on one's own well-being and mental health may prepare the ground for the conditions needed for each partner to build the capacity to react actively and constructively to their partner's personal self-expansion. In other words, the work on one's own mental well-being comes along with a raise in awareness, and therewith, with an expansion of the self. Thus, both partners may have a better understanding of what personal self-expansion feels like and may be equipped to reply actively and constructively when the respective other is trying to capitalize on a self-expanding event.

Thus, the present research provides empirical support for Aron and Aron's (2014) notion that outsourcing personal self-expansion to the non-relational context like it was suggested by Finkel and colleagues (2014) is not sufficient to maintain a healthy relationship. The findings imply a modification of Finkel et al.'s theoretical debate over the increase in marital needs and encourage a discussion over how partners could best

engage in active and constructive capitalization once one of them made a personal growth experience.

Methodology. Besides its contribution in regards to the content, the current project also proposed a new method to induce feelings of personal self-expansion in individuals. The new method sets itself apart from previous ways of operationalizing self-expansion by incorporating several aspects found to be characteristic of self-expansion such as novelty, excitement, or challenge (Aron & Aron, 2000) but also by attempting to stimulate a perception of transcendental growth. The past literature on self-expansion has implied that personal growth derived from self-expansion can be a transcendental experience (Aron & Aron, 1986), yet, previous methods used to examine personal self-expansion were not able to fully capture this important aspect. For example, Mattingly and Lewandowski (2014b) used embodiment, which seems to rely on a rather subjective perception of self-expansion. While I acknowledge that the use of play dough to create a sculpture may not be a transcendental experience for everybody, the data collected in Study 2 shows that it least encouraged people to take on a larger perspective and to feel as if they were expanding their sense for the kind of person they are. These self-reports from participants in Study 2 align with the current literature on the use of play dough in a clinical setting. Even though play dough has not been used before to induce feelings of self-expansion, sculpting aspects of the self is frequently used in the context of creative therapy, where it has been found to increase comprehension and mentalization of inner states and social roles (Or, 2010). Thus, the application of play dough in the context of self-expansion seems promising.

Furthermore, the findings are based on a sample of 93 participants, which exceeds the number of participants used in previous research on the topic (e.g., Mattingly & Lewandowski, 2013a). Thus, the here presented method to induce feelings of personal self-expansion seems to be worth to explore further and future research should study its effectiveness as well as its validity and reliability.

Limitations and Future Research

There are several limitations to this research. First, even though Study 1 was a community sample, my two samples were mainly Caucasian. People of Caucasian decent are often used to living a relatively independent life-style, which could have affected their answers on Gordon and Luo's (2011) Personal Self-Expansion Questionnaire. Items such as *"I place a lot of importance on experiencing new things"* may reflect values of autonomy and independence that are held high in countries like Canada or the United States where the sample of Study 1 was collected. Thus, there is a risk that participants rated themselves high on such items due to societal pressures and their ratings may be inflated.

The sample used to generate the data for Study 2 may also have some biases. First, it is a very young sample and majority of participants' romantic relationships were not very evolved yet. Thus, their ratings and perceptions of the follow-up questions could have been very different from the answers an older married community sample would have provided. Furthermore, the sample in Study 2 was a largely female sample. Women tend to develop a more relational self-construal (Gabriel & Gardner, 1999) and their expectations for their romantic relationships tend to be a bit higher than those that men develop for their significant other (Barich & Bielby, 1996). Thus, the potential effect of

personal self-expansion making a lack of relational growth salient, could have affected a female sample more than a mixed sample.

Additionally, sexual orientation information was not gathered in this study. The current literature on self-expansion (relational or personal) does not provide any insight in potential differences based on sexual orientation. Given that many homosexual couples have gone a long way to overcome inner struggles about their sexual orientation and to fight for acceptance in their social environment, homosexual couples may have had more exposure to deep and meaningful experiences and they may also be more likely to engage in self-reflection than heterosexual couples. However, these are simply assumptions and would need to be verified by future researchers.

Moreover, the literature is currently lacking a scale assessing state levels of personal self-expansion. Thus, I had to rely on modified items borrowed from Lewandowski and Aron's (2002) original self-expansion scale. As a result, the analysis was conducted with items that had not previously been used and interpretations of the results for the effects of state levels of personal self-expansion should be treated with caution.

In addition, play dough has never been used to induce state levels of personal self-expansion. The approach should be further examined and more data to assess its reliability and effectiveness needs to be generated by future research projects in order to establish it as a good method to induce self-expansion in participants. That being said, more variables assessing the method's capacity to induce self-expansion should be incorporated in future studies. Even though there was the initial concern of fatigue in clients when presenting them with a questionnaire, a creative task, and a writing activity,

I made the experience that most participants found the study to be inspiring rather than tiring. Therefore, it appears reasonable to include more self-report measures in future studies. For example, one variable that should be included in a study interested in examining the effect of personal self-expansion on the romantic dyad further, should include Lewandowski and Aron's (2002) original and not modified self-expansion scale, as it would truly measure self-expansion in the relationship. If the original scale was to be included, the researchers would be able to assert statistical control over it and eliminate the possibility that a person may derive benefits for their relationship simply because the relationship is high in self-expansion and not because the person was successful in making and sharing a personal self-expansion experience. Moreover, the administration of the relational self-expansion questionnaire before and immediately after the engagement in personal self-expansion task would provide the researcher with an additional outcome variable that could indicate whether personal self-expansion effects relational self-expansion.

Also, the assessment of the dependent variables, relationship satisfaction and perceived presence of meaning in life, at T2 (i.e., immediately after the writing activity) were face-valid measurements due to concerns of participant fatigue. Even though these items were borrowed from the established scales that were used at the beginning of the study and at time of the follow-up, caution should be practiced when interpreting the results as the validity of the assessment may be reduced. In this context, the lack of measuring the search for meaning in life in Study 2 should be mentioned. Whereas the inclusion of this subscale in Study 1 provided a valuable contribution to the results of this research project, it would have been worthwhile to be able to compare the findings

obtained in Study 1 to results found in Study 2. However, given that we only assessed the presence of meaning in life immediately after the play dough activity, a comparison among the two studies was not possible.

Moreover, the lack of findings for a significant association between personal self-expansion and relationship satisfaction may indicate that relationship satisfaction is too broad of a concept. Many factors may determine overall relationship satisfaction and it is possible that state levels of personal self-expansion influences those contributing factors rather than relationship satisfaction as a whole. Thus, more specific outcome variables such as relationship closeness or relationship growth should be included in future research studies. Based on the findings presented here, personal self-expansion could have a positive effect on perceived closeness and relationship growth if the partners are able to constructively reflect on the growth experience that one of them made in a collaborate fashion. If they are unable to do so, it seems likely that personal self-expansion could represent a challenge in the relationship that may negatively influence the partners' perception of closeness and relational growth. Yet, these are just speculation at this point in time that need to be empirically assessed by future researchers. In terms of benefits for the self, future researchers should consider including measures assessing a person's level of self-esteem. Based on Aron, Paris, and Aron (1995) relational self-expansion has been found to increase self-esteem as well as self-efficacy in individuals, however, the question remains whether or not this effect would also be true for self-expansion experienced outside the relationship.

It may also be valuable for future researchers to include Gordon and Luo's (2011) scale for measuring trait levels of personal self-expansion in their experiment. First, it

may be interesting to the researchers to be able to control for trait levels of personal self-expansion and ensure that what they are measuring true state levels of personal self-expansion. Secondly, having data on participants' trait levels of personal self-expansion may be very useful to assess how people with high or low levels of personal self-expansion as a personality trait approach self-expanding situations and to what extent they are able to benefit from their reflection on it afterwards.

Furthermore, the manipulation of the integration variable (i.e., reflection or no reflection) may not have been strong enough to induce a sufficient impact. It may have been better to let participants in both groups engage in the play dough task with the self-reference and then provide participants in the non-reflection group with a cross-world puzzle, for instance, to distract them. Even though the activities completed by each group would have been different, a clearer distinction between "integration" or "no integration" could have been made and the effect could have been more explicitly related back to the manipulation and not to the potentially confounding fact that the self-expanding activity was similar but not identical for both groups.

Future research should also consider using a 2x3 Factor design where *integration* should have two levels (i.e., no reflection and self-reflection) and *personal self-expansion* should have three levels (i.e., no personal self-expansion, personal self-expansion without personal reference, and personal self-expansion with personal reference). The inclusion of a control group that did not engage in a personally self-expanding activity would assist the researchers in drawing conclusions about the effectiveness of the play dough method in installing feelings of self-expansion but it would further allow researchers to compare the difference in relationship outcome variables. An analysis of variance would allow to

examine how big the impact of personal-self-expansion may be for the well-being of the romantic relationship.

References

- Aron, A., & Aron, E. (1986). *Love and the expansion of self: Understanding attraction and satisfaction*. Washington: Hemisphere Pub. Corp.
- Aron, A., & Aron, E. (2000). *Self-Expansion Motivation and Including Other in the Self*. In Ickes, W. & Duck, S. (Eds.), *The Social Psychology of Personal Relationships* (pp. 109 – 128). Hoboken, N.J.: John Wiley & Sons Ltd.
- Aron, A., & Aron, E. (2012). The Meaning of Love. In Wong, P.T.P. (Eds.), *Human Quest for Meaning: Theories, Research, and Applications* (pp.185 -208). Florence, KY: Routledge
- Aron, A., & Aron, E. N. (2014). Climbing diotima's mountain: Marriage and achieving our highest goals. *Psychological Inquiry*, 25(1), 47-52.
- Aron, A., Aron, E. N., Tudor, M., & Nelson, G. (1991). Close relationships as including other in the self. *Journal of Personality and Social Psychology*, 60(2), 241-253.
- Aron, A., McLaughlin-Volpe, T., Mashek, D., Lewandowski, G., Wright, S. C., & Aron, E. N. (2004). Including others in the self. *European review of social psychology*, vol 15. (pp. 101-132) Psychology Press/Taylor & Francis (UK), Hove.

- Aron, A., Norman, C. C., Aron, E. N., McKenna, C., & Heyman, R. E. (2000). Couples' shared participation in novel and arousing activities and experienced relationship quality. *Journal of Personality and Social Psychology*, *78*(2), 273-284.
- Aron, A., Paris, M., & Aron, E. N. (1995). Falling in love: Prospective studies of self-concept change. *Journal of Personality and Social Psychology*, *69*(6), 1102.
- Barich, R. R., & Bielby, D. D. (1996). Rethinking marriage: Change and stability in expectations, 1967–1994. *Journal of Family Issues*, *17*(2), 139-169.
- Boud, D., Keogh, R., & Walker, D. (Eds.) (2013). *Reflection: Turning experience into learning*. London, England: Routledge Falmer
- Cacioppo, J. T., Petty, R. E., & Chuan Feng, K. (1984). The Efficient Assessment of Need for Cognition. *Journal Of Personality Assessment*, *48*(3), 306.
- Cosmelli, D., & Ibáñez, A. (2008). Human cognition in context: On the biologic, cognitive and social reconsideration of meaning as making sense of action. *Integrative Psychological & Behavioral Science*, *42*(2), 233-244.
- Csikszentmihalyi, M. (1990). *Flow: The Psychology of Optimal Experience*. New York, NY: Harper & Row

Csikszentmihalyi, M., & Massimini, F. (1985). On the psychological selection of bio-cultural information. *New Ideas in Psychology*, 3(2), 115-138.

Delle Fave, A., Brdar, I., Wissing, M. P., & Vella-Brodrick, D. (2013). Sources and motives for personal meaning in adulthood. *The Journal of Positive Psychology*, 8(6), 517-529.

Donnellan, M. B., Conger, R. D., & Bryant, C. M. (2004). The big five and enduring marriages. *Journal of Research in Personality*, 38(5), 481-504.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Sage.

Finkel, E. J., Hui, C. M., Carswell, K. L., & Larson, G. M. (2014). The suffocation of marriage: Climbing Mount Maslow without enough oxygen. *Psychological Inquiry*, 25(1), 1-41.

Fivecoat, H. C., Tomlinson, J. M., Aron, A., & Caprariello, P. A. (2015). Partner support for individual self-expansion opportunities: Effects on relationship satisfaction in long-term couples. *Journal of Social and Personal Relationships*, 32(3), 368-385.

Gable, S. L., Gonzaga, G. C., & Strachman, A. (2006). Will you be there for me when things go right? supportive responses to positive event disclosures. *Journal of Personality and Social Psychology*, 91(5), 904-917.

Gable, S. L., Reis, H. T., Impett, E. A., & Asher, E. R. (2004). What do you do when things go right? the intrapersonal and interpersonal benefits of sharing positive events. *Journal of Personality and Social Psychology*, 87(2), 228-245.

- Gabriel, S., & Gardner, W. L. (1999). Are there "his" and "hers" types of interdependence? the implications of gender differences in collective versus relational interdependence for affect, behavior, and cognition. *Journal of Personality and Social Psychology*, 77(3), 642-655.
- Gordon, C. L., & Luo, S. (2011). The personal expansion questionnaire: Measuring one's tendency to expand through novelty and augmentation. *Personality and Individual Differences*, 51(2), 89-94.
- Grant, A. M., Franklin, J., & Langford, P. (2002). The self-reflection and insight scale: A new measure of private self-consciousness. *Social Behavior and Personality*, 30(8), 821-835.
- Graham, J. M. (2008). Self-expansion and flow in couples' momentary experiences: An experience sampling study. *Journal of Personality and Social Psychology*, 95(3), 679-694.
- Hornby, A.S. (2005). Reflection. In *Oxford Advanced Learner's Dictionary* (7th ed.). Oxford: Oxford University Press
- Jung, C. G. (1993). *The basic writings of C.G. Jung*. De Laszlo, V. S. (Eds). New York: Modern Library.
- Kashdan, T. B., & McKnight, P. E. (2009). Origins of purpose in life: Refining our understanding of a life well lived. *Psihologijske Teme*, 18(2), 303-316.

- Langston, C. A. (1994). Capitalizing on and coping with daily-life events: Expressive responses to positive events. *Journal of Personality and Social Psychology*, 67(6), 1112-1125.
- Le, B., Dove, N. L., Agnew, C. R., Korn, M. S., & Mutso, A. A. (2010). Predicting nonmarital romantic relationship dissolution: A meta-analytic synthesis. *Personal Relationships*, 17(3), 377-390.
- Lewandowski, G. W., & Ackerman, R. A. (2006). Something's missing: Need fulfillment and self-expansion as predictors of susceptibility to infidelity. *The Journal of Social Psychology*, 146(4), 389-403
- Lewandowski, G.W., Jr., & Aron,A. (2002). The self-expansion scale: Construction and validation. *Paper presented at the Third Annual Meeting of the Society of Personality and Social Psychology*, Savannah, GA.
- Lightsey, O., Boyraz, G., Ervin, A., Rarey, E., Gharghani, G., & Maxwell, D. (2014). Generalized self-efficacy, positive cognitions, and negative cognitions as mediators of the relationship between conscientiousness and meaning in life. *Canadian Journal of Behavioural Science-Revue Canadienne Des Sciences Du Comportement*, 46(3), 436-445.
- Mattingly, B. A., & Lewandowski, G. W., Jr. (2013a). The power of one: Benefits of individual self-expansion. *The Journal of Positive Psychology*, 8(1), 12-22.

- Mattingly, B. A., & Gary W Lewandowski Jr. (2013b). An expanded self is a more capable self: The association between self-concept size and self-efficacy. *Self and Identity, 12*(6), 621.
- Mattingly, B. A., & Lewandowski, G. W. (2014a). Broadening horizons: Self-Expansion in relational and Non- Relational contexts. *Social and Personality Psychology Compass, 8*(1), 30-40.
- Mattingly, B. A., & Lewandowski, G. W. (2014b). Expanding the self brick by brick: Nonrelational self-expansion and self-concept size. *Social Psychological and Personality Science, 5*(4), 484-490.
- Maslow, A. H. (1968). *Towards a Psychology of Being*. New York: Van Nostrand.
- Or, M. B. (2010). Clay sculpting of mother and child figures encourages mentalization. *The Arts in Psychotherapy, 37*(4), 319-327.
- Overall, N. C., Fletcher, G. J. O., & Simpson, J. A. (2010). Helping each other grow: Romantic partner support, self-improvement, and relationship quality. *Personality and Social Psychology Bulletin, 36*(11), 1496-1513.
- Proulx, T. (2013). Beyond mortality and the self: Meaning makes a comeback. In Markman, Proulx, & Lindberg, M.J. (Eds.). *The Psychology of Meaning*. Washington, DC: American Psychological Association
- Proust, J. (2010). Metacognition. *Philosophy Compass, 5*(11), 989-998.

- Reissman, C., Aron, A., & Bergen, M. R. (1993). Shared activities and marital satisfaction: Causal direction and self-expansion versus boredom. *Journal of Social and Personal Relationships, 10*(2), 243-254.
- Reis, H. T., Smith, S. M., Carmichael, C. L., Caprariello, P. A., Tsai, F., Rodrigues, A., & Maniaci, M. R. (2010). Are you happy for me? how sharing positive events with others provides personal and interpersonal benefits. *Journal of Personality and Social Psychology, 99*(2), 311-329.
- 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*(4), 357-387.
- Schlegel, R. J., Hicks, J. A., King, L. A., & Arndt, J. (2011). Feeling like you know who you are: Perceived true self-knowledge and meaning in life. *Personality and Social Psychology Bulletin, 37*(6), 745-756.
- Self-Reflection. (2004). In *Australian Oxford Dictionary*. Retrieved from <http://www.oxfordreference.com/view/10.1093/acref/9780195517965.001.0001/acref-9780195517965>.
- Steger, M. F., & Dik, B. J. (2009). If one is looking for meaning in life, does it help to find meaning in work? *Applied Psychology: Health and Well-being, 1*(3), 303-320.

- Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology, 53*(1), 80-93.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*(6), 1063-1070.
- White, R. W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review, 66*(5), 297-333.
- Woods, S., Lambert, N., Brown, P., Fincham, F., & May, R. (2015). "I'm so excited for you!" how an enthusiastic responding intervention enhances close relationships. *Journal of Social and Personal Relationships, 32*(1), 24-40.

Notes

¹ Gordon and Luo (2001) conducted three independent studies to test and validate a new scale called Personal Expansion Questionnaire (i.e., PEQ) measuring personal self-expansion as a trait. They questioned up until now indisputable characteristics of self-expansion activities such as novelty or excitement. More specifically, in their newly established scale, the Personal Expansion Questionnaire, intended to measure a person's individual tendency to engage in self-expansion outside of his or her relationship, Gordon and Luo (2011) included an augmentation scale rather than an arousal / excitement scale. Their rationale for substituting the arousal and excitement component of self-expansion with augmentation was that the feeling of excitement is very subjective and may be interpreted differently from person to person. Thus, it was their goal to eliminate the variance caused by the subjective opinions of what is exciting. Study one provided initial support of the novelty and augmentation subscales both included in the PEQ (Gordon & Luo, 2011).

² This idea is not entirely new and has been considered by other theorists. Carl Gustav Jung (1933), for instance, described the ability to integrate experiences of personal growth found outside of the relationship back into the self with the term "inner integration". According to him, such a high degree of unity within oneself can only be experienced when the individual finds growth within themselves rather than holding another person (i.e., the intimate partner) responsible for providing opportunities of self-expansion and self-actualization (Jung, 1993). Aron and colleagues (1986) further developed the idea of Jung's (1993) inner integration and defined its state as the optimal relationship. In other words, the couple that has managed to reach such a high level of conscious development of their own self knows that their relationship may contribute towards the maximum self-expansion of each partner but it is no longer the sole growth supplier for each partner (Aron & Aron, 1986).

³ For exploratory purposes I also examined the associations among my dependent variables, perceived meaning in life and relationship satisfaction, and the subscales of personal self-expansion, novelty and augmentation. All Pearson Correlations among the subscales and the other variables of interest are displayed in Table 15.

Novelty and Augmentation predicting Relationship Satisfaction. The two subscales of personal self-expansion, novelty and augmentation, were entered in a hierarchical regression model as predictors of relationship satisfaction while controlling for capitalization as well as positive and negative affect in later steps of the analyses. Results (see Table 16) show that augmentation and novelty are not significant predictors of relationship satisfaction but become significant once we control for the composite capitalization score. In other words, when capitalization and novelty are held constant, an

increase in augmentation predicts a significant decrease in relationship satisfaction ($b = -.645$, $t(103) = -2.72$, $p = .008$). The overall model containing these three variables significantly explained 28.4% of the variance in relationship satisfaction ($F(3,103) = 13.25$, $p \leq .001$). Once we control for need for cognition, positive and negative affect at step 3, novelty becomes non-significant but the association between augmentation and relationship satisfaction is strengthened ($b = -.799$, $t(106) = -3.08$, $p = .003$). This model significantly explained 35.6% of the variance in relationship satisfaction ($F(6,103) = 8.93$, $p \leq .001$).

Capitalization as a Moderator of the Link between Augmentation and Relationship Satisfaction. As can be obtained from Table 17, both augmentation and capitalization were significant predictors of relationship satisfaction. In congruence with our hypothesis 1b (i.e., capitalization moderates the link between personal self-expansion and relationship satisfaction), we examined possible moderating effects of capitalization on the link between an aspect of personal self-expansion, augmentation, and relationship satisfaction. We conducted this moderation analysis using Hayes PROCESS macro in SPSS. Variables were mean-centred. Results displayed in Table 10 show a significant interaction effect ($b = .093$, $t(100) = 2.36$, $p = .021$). This interaction was probed by determining and testing the simple slopes is illustrated in Figure 2. As visualized in Figure 2, people engaging in more augmentation tend to experience a decrease in relationship satisfaction, however, this trend was only significant and much more rapid for those that also perceive their partner's response to their capitalization attempts as less active and constructive ($b = -.480$, $t(100) = -3.35$, $p = .001$).

Novelty and Augmentation predicting Presence of Meaning in Life. I entered novelty and augmentation as predictor variables into the regression model next to capitalization, self-reflection, insight, need for cognition, positive affect, and negative affect to statistically control for these variables. No significant results were found for the associations between the predictor variables and the presence of meaning in life (see Table 18).

Novelty and Augmentation predicting the Search for Meaning in Life. Whereas novelty did not predict the presence of meaning in life, it emerged as a significant predictor of the search for meaning in life ($b = .512$, $t(103) = 2.21$, $p = .03$) even after controlling for all other variables (see Table 11 for a complete summary of the results of the entire regression model). The overall model significantly explained 18.4% of the variance in search for meaning in life ($F(6,103) = 3.09$, $p = .006$). Thus, the results indicate that for every unit increase in novelty, the more a person may begin to look for their meaning in life. Augmentation remained non-significant throughout the regression models (see Table 18).

Self-reflection as a Moderator of the Relationship between Novelty and Search for Meaning in Life. Another predictor that emerged as significant in the previous regression model was self-reflection ($b = .471$, $t(103) = 3.06$, $p = .003$). Thus, the more a person engages in self-reflection, the more likely he or she will also be to search for meaning in life. In order to be inclusive, we then tested whether self-reflection

would moderate the relationship between novelty and search for meaning in life. Using Hayes' Process Macro in SPSS, we tested the interaction of novelty and self-reflection as a predictor of search for meaning in life and found significant results ($b = -.486$, $t(100) = -2.46$, $p = .016$; see Table 19 for all results). Thus, we probed this interaction by testing the simple slopes. As visualized by Figure 3, the significance testing of the simple slopes revealed that those who engage in very little self-reflection experience a more rapid increase in search for meaning in life once they experience novelty ($b = .949$, $t(100) = 3.333.12$, $p = .001$) compared to those who tend to self-reflect quite a lot ($b = .032$, $t(100) = .12$, $p = .909$).

Self-Reflection as a Mediator of the Relationship Between Novelty and Search for Meaning in Life. The results further indicate that self-reflection does not only change the relationship between novelty and the search for meaning in life but that it may also partially explain the link between those variables (i.e., novelty and search for meaning in life). More specifically, self-reflection was found to be a significant mediator. In order to assess whether or not self-reflection was a significant mediator of the relationship in question, several multiple regression analyses were conducted using Hayes' PROCESS Macro (Model 4) in SPSS once again. Throughout all analyses we entered positive affect, negative affect, and need for cognition as covariates and asserted statistical control over them. The first analysis examined the effect of novelty (i.e., independent variable) on self-reflection (i.e., mediator) and revealed that increases in novelty are associated with increases in self-reflection ($b = .366$, $t(99) = 2.48.12$, $p = .015$). The second regression analysis showed that self-reflection was positively associated with the search for meaning in life ($b = .476$, $t(98) = 3.143$, $p = .022$) while controlling for novelty. Based on the significant results for the a- and the b-path, we used the bootstrapping method to test whether self-reflection is indeed a significant mediator of the association between novelty and relationship satisfaction. Using 1000 bootstrap samples, we obtained a 95% confidence interval, which was bias-corrected. The results of the mediation analysis using the bootstrap method also indicated a significant indirect effect of novelty on the search for meaning in life through self-reflection, $b = .174$, BCa CI [.0233, .4986].

⁴I was further interested in assessing the extent to which participant thought of their partner while engaging in the respective personal self-expansion activities. Thus, we presented them with the same Likert scale used to verify the self-expanding nature of the activity (i.e., 1 = not very much, 2 = a little, 3 = Somewhat 4 = To a moderate extent, 5 = considerably, 6 = Much, 7 = Very Much) and asked them to use the scale to answer the following questions: "How much do you want to share your thoughts after making the sculpture with your partner?", "How much do you want to share your thoughts after making the sculpture with your best friend?", "How much do you want to share your thoughts after making the sculpture with a family member other than your partner?", "How much did you think about partner while making the sculpture?", "How much did

you think about how you would like others to see you besides your partner while making the sculpture?”

Additionally, I carried out several hierarchical regression models that predicted relationship satisfaction at T2 (i.e., post) and at T3 (i.e., follow-up). In all models I entered need for cognitive complexity as well as positive and negative affect as predictors in subsequent steps in order to assert statistical control over them. The first regression tested whether or not the aggregated variable for personal self-expansion predicted relationship satisfaction at T2. However, no significant results were found (see Table 20). The second regression tested whether or not *the expanded sense of self* would be a significant predictor. The results show that people who found that the activity made them expand their sense for what kind of person they are, also experienced a slight increase in relationship satisfaction. Yet, this trend did not reach levels of significance (see Table 21). The third regression model tested the variables as predictors of relationship satisfaction at time of the follow-up (i.e., T3). Results showed that those who found that making the sculpture to be helpful to expand their sense of self, reported a slight decrease in their relationship satisfaction 48hours later. Yet, this was also not a significant trend (see Table 22). This negative trend was further supported by a weak negative semi-partial correlation ($sr = -.086$) between the *expanded sense of self* and relationship satisfaction at T3 while holding positive and negative affect as well as need for cognition constant.

⁵ Thus, I was interested in knowing how compelled participants felt to share their experience in the lab with their partner and to what extent. Seventy-two percent ($n = 67$) out of those 81 participants who completed the follow-up indicated that they had shared it with their partner. However, only 6.5% ($n = 14$) of the participants reported that they shared their experience in the lab with a family member or a close friend. The comparison of these percentages is encouraging in the sense that they support the idea that people seem to have a stronger need to incorporate their personal growth experience in their romantic relationship than in their other close relationships, which highlights the importance of personal self-expansion for the romantic dyad. Additionally, I inquired about how participants decided to share their experience in the lab with their partner and categorized their various responses. The data shows that only nine participants texted about the experience or briefly mentioned it, another nine mentioned it over the phone but 29 (31.3%) participants discussed their experience with their partner in person and another 17 (18.3%) participants indicated that they shared details about their experience with their partner. These numbers further substantiate the claim that personal self-expansion is important for the romantic couple but also that sharing their personal growth event with their partner is of great importance for majority of people.

TablesTable 1. *Descriptive Statistics of all Variables of Interest in Study 1*

	N	Minimum	Maximum	Mean	Std. Deviation
Relationship Satisfaction	104	0.00	8.00	6.20	1.75
Presence of Meaning in Life	104	1.60	7.00	4.86	1.27
Search for Meaning in Life	104	1.00	7.00	4.36	1.41
Need for Cognition	104	1.44	5.00	3.27	.60
Positive Affect	104	1.00	5.00	3.09	.87
Negative Affect	104	1.00	3.80	1.40	.67
Trait Personal Self-Expansion	104	2.10	4.70	3.49	.53
Capitalization: Active-Constructive	104	1.00	7.00	5.27	1.37
Capitalization: Passive-Constructive	104	1.00	7.00	3.90	1.44
Capitalization: Active-Deconstructive	104	1.00	6.67	2.83	1.68
Capitalization: Passive-Deconstructive	104	1.00	7.00	2.59	1.79
Capitalization	104	-14.33	4.00	-4.05	4.80
Self-Reflection	104	1.17	6.00	4.05	.94
Insight	104	2.00	5.50	4.15	.68

Table 3. *Hierarchical Multiple Regression Analysis Testing Trait Personal Self-Expansion as a Predictor of Relationship Satisfaction*

Predictors	Relationship Satisfaction	
	R ²	β
Step 1	.042*	
Trait Personal Self-Expansion		.673*
Step 2	.188**	
Trait Personal Self-Expansion		-.032
Capitalization		.160**
Step 3	.282*	
Trait Personal Self-Expansion		-.393
Capitalization		.170**
Need for Cognition		.095
Positive Affect		.601**
Negative Affect		-.275

Table 4. *Regression Analysis Testing The Trait Personal Self-Expansion x Capitalization Interaction as a Predictor of Relationship Satisfaction*

Predictors	Relationship Satisfaction	
	R ²	β
Step 1	.262**	
Trait Personal Self-Expansion		-.428
Capitalization		.188**
Personal Self-Expansion x Capitalization		.198*

Table 5. *Hierarchical Multiple Regression Analyses Testing Trait Personal Self-Expansion as Predictor of Presence of and Search for Meaning in Life*

Predictors	Presence of Meaning in Life		Search for Meaning in Life	
	R ²	β	R ²	β
Step 1	.021		.011	
Trait Personal Self-Expansion		.345		.272
Step 2	.052		.117*	
Trait Personal Self-Expansion		.205		.175
Self-Reflection		-.103		.471*
Insight		.320		-.229
Step 3	.170*		.155*	
Trait Personal Self-Expansion		-.077		.407
Self-Reflection		-.138		.532**
Insight		.088		-.122
Need for Cognition		.277		-.370
Positive Affect		.417*		.140
Negative Affect		-.377		.281

Table 6. *Hierarchical Regression Analysis Testing the Trait Personal Self-Expansion x Self-Reflection Interaction as a Predictor of Presence of and Search for Meaning in Life*

Predictors	Presence of Meaning in Life		Search for Meaning in Life	
	R ²	β	R ²	β
Step 1	.038		.131*	
Trait Personal Self- Expansion		.408		.035
Self-Reflection		-.074		.562*
Trait Personal Self-Expansion x Self-Reflection		-.236		-.404

Table 7. *Descriptive Statistics Across Conditions for Study 2*

	N	M	SD
Relationship Satisfaction T1	93	6.78	1.05
Relationship Satisfaction T2	93	6.35	1.57
Relationship Satisfaction T3	81	6.44	1.55
Presence of Meaning T1	93	4.88	1.27
Presence of Meaning T2	93	4.80	1.49
Presence of Meaning T3	81	4.86	1.36
(State) P. Self-Expansion ^a	93	4.12	1.45
Expanded Sense of Self ^b	93	4.52	1.86
Capitalization ^c	67	-3.13	3.50
Need for Cognition	93	3.55	.65
Positive Affect	93	3.30	.80
Negative Affect	93	1.39	.50

^a State Levels of Personal Self-Expansion

^b Face-valid Personal Self-Expansion variable

^c Composite Capitalization variable

Table 8. *Descriptive Statistics for the Manipulation Check for State Levels of Personal Self-Expansion*

	N	M	SD
1. How much was making the sculpture a new experience for you?	93	4.20	2.08
2. To what extent was making the sculpture making you feel a greater awareness of the world around you?	93	4.25	1.94
3. How much did making the sculpture help you expand your sense of the kind of person you are?	93	4.52	1.86
4. How much did you learn something new about yourself by making a sculpture?	92	3.35	1.83
5. How much did making the sculpture make you feel that you have a larger perspective on things?	92	4.26	1.78

Table 9. *Descriptive Statistics Within Conditions Study 2*

	Self-Reflection			Control			<i>t</i>	df	<i>p</i>
	N	M	SD	N	M	SD			
Relationship Length	46	33.93	29.84	47	31.64	39.78	.31	91	.754
Relationship Satisfaction T1	46	6.89	.79	47	6.68	1.26	.97	91	.333
Relationship Satisfaction T2	46	6.49	1.16	47	6.21	1.89	.86	91	.391
Relationship Satisfaction T3	41	6.60	1.19	40	6.27	1.85	.93	79	.352
Presence of Meaning T1	46	4.86	1.34	47	4.90	1.20	-.16	91	.876
Presence of Meaning T2	46	4.98	1.42	47	4.62	1.54	1.18	91	.243
Presence of Meaning T3	41	4.91	1.39	40	4.81	1.35	.32	79	.747
(State) P. Self-Expansion ^a	46	4.08	1.36	47	4.17	1.54	-.304	91	.762
Expanded Sense of Self ^b									
Capitalization ^c	33	-3.52	3.14	34	-2.75	3.83	-.89	65	.378
Need for Cognition	46	3.54	.63	47	3.56	.68	-.12	91	.906
Positive Affect	46	3.28	.82	47	3.32	.78	-.24	91	.811
Negative Affect	46	1.27	.32	47	1.50	.61	-2.30	91	.024

^a State Levels of Personal Self-Expansion

^b Face-valid Personal Self-Expansion variable

^c Composite Capitalization variable

Table 10. *Pearson Correlations among All Variables of Interest*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Self-Reflection	1	-.143	.032	-.101	-.090	-.105	.016	-.122	-.036	.012	.025	.234*	.109	.029	.237*
2. Expanded Sense of Self ^a		1	.811**	.046	.166	-.105	.269**	.401**	.198	-.028	.453**	.168	-.009	-.182	-.299**
3. (State) P. Self-Expansion ^b			1	.021	.045	-.091	.245*	.328**	.150	-.085	.508**	.258*	-.031	-.042	-.208*
4. Rel_Sat ^c T1				1	.672**	.867**	.317**	.230*	.322**	.080	.077	-.224*	.325**	.001	.070
5. Rel_Sat T2					1	.623**	.317**	.414**	.321**	.059	.294**	-.078	.240	-.740**	-.250*
6. Rel_Sat T3						1	.356**	.161	.343**	-.025	.018	-.311**	.358**	-.056	.242*
7. Presence of Meaning T1							1	.819**	.819**	.092	.337**	-.144	.094	-.140	.058
8. Presence of Meaning T2								1	.748**	.098	.436**	-.019	-.012	-.349**	-.525**
9. Presence of Meaning T3									1	.023	.306**	-.259*	.270*	-.140	-.092
10. Need for Cognition										1	.084	-.120	.024	-.006	-.034
11. Positive Affect											1	.069	.030	-.327**	-.258*
12. Negative Affect												1	-.100	-.098	-.181
13. Capitalization ^d													1	-.022	.155
14. Difference Rel_Sat T1 – T2														1	.400**
15. Difference Meaning T1-T2															1

^a Face-valid Personal Self-Expansion variable, ^b State Levels of Personal Self-Expansion, ^c Relationship Satisfaction, ^d Composite Capitalization variable, * $p \leq .05$, ** $p \leq .001$

Table 11. *Hierarchical Regression Analysis Testing Expanded Sense of Self*

Predictors	Presence of Meaning in Life T2	
	R ²	β
Step 1	.073*	
Expanded Sense of Self		.184*
Step 2	.170*	
Expanded Sense of Self		.125
Need for Cognition		.102
Positive Affect		.418*
Negative Affect		-.473

Table 12. *Hierarchical Regression Analysis Testing State Personal.*

Predictors	Presence of Meaning in Life T2	
	R ²	β
Step 1	.060*	
(State) P. Self-Expansion		.214*
Step 2	.163*	
(State) P. Self-Expansion		.147
Need for Cognition		.117
Positive Affect		.414*
Negative Affect		-.503*

Table 13. *Hierarchical Regression Analysis Testing Expanded Sense of Self as a Predictor of Presence of Meaning in Life T3*

Predictors	Presence of Meaning in Life T3	
	R ²	β
Step 1	.039	
Expanded Sense of Self		.149
Step 2	.181**	
Expanded Sense of Self		.095
Need for Cognition		-.039
Positive Affect		.483*
Negative Affect		-.775*

Table 14. *Hierarchical Regression Analysis testing State Self-Expansion*

Predictors	Presence of Meaning in Life T2	
	R ²	β
Step 1	.022	
(State) P. Self-Expansion		.148
Step 2	.176*	
(State) P. Self-Expansion		.099
Need for Cognition		-.020
Positive Affect		.495*

Table 16. Regression Analysis testing the Augmentation x Capitalization Interaction as a Predictor of Relationship Satisfaction

Predictors	Relationship Satisfaction	
	R ²	β
Step 1	.049	
Augmentation		.248
Novelty		.514
Step 2		
Augmentation		-.645**
Novelty		.656**
Capitalization		.235**
Step 3		
Augmentation		-.799**
Novelty		.395
Capitalization		.229**
Positive Affect		.463**
Negative Affect		-.317
Need for Cognition		.258

Table 17. *Hierarchical Multiple Regression Analysis Testing Subscales of Self-Expansion as Predictors of Relationship Satisfaction*

Predictors	Relationship Satisfaction	
	R ²	β
Step 1	.271**	
Augmentation		-.540*
Capitalization		.227**
Augmentation x Capitalization		.093*

Table 18. *Hierarchical Multiple Regression Analyses Testing the Subscales of Personal Self-Expansion, Augmentation and Novelty, as Predictors of Presence of and Search for Meaning in Life*

Predictors	Presence of Meaning in Life		Search for Meaning in Life	
	R ²	β	R ²	β
Step 1	.033		.091*	
Augmentation		.071		.342
Novelty		.355		.003
Step 2	.075		.167**	
Augmentation		-.054		-.164
Novelty		.354		.503*
Self-Reflection		-.133		.420*
Insight		.376		-.141
Step 3	.187*		.184*	
Augmentation		-.206		-.028
Novelty		.179		.512*
Self-Reflection		-.181		.471*
Insight		.130		-.063
Positive Affect		.348		.042
Negative Affect		-.417*		.225
Need for Cognition		.359		-.254

Table 19. Hierarchical Multiple Regression Analysis Testing the Novelty x Self-Reflection Interaction as a Predictor of Search for Meaning in Life

Predictors	Search for Meaning in Life	
	R ²	β
Step 1	.196**	
Novelty		.491*
Self-Reflection		.415*
Novelty x Self-Reflection		-.486*

Table 20. Hierarchical Regression Analysis Testing State Personal

Predictors	Relationship Satisfaction T2	
	R ²	β
Step 1	.002	
(State) P. Self-Expansion		.049
Step 2	.529*	
(State) P. Self-Expansion		-.168
Need for Cognition		-.060
Positive Affect		.624**
Negative Affect		-.275
Relationship Satisfaction T1		1

Table 21. *Hierarchical Regression Analysis Testing The Expanded Sense of Self as a predictor for Relationship Satisfaction T2.*

Predictors	Relationship Satisfaction	
	T2	
	R ²	β
Step 1	.028	
Expanded Sense of Self ^b		.140
Step 2	.529*	
Expanded Sense of Self ^b		.019
Need for Cognition		-.018
Positive Affect		.452*
Negative Affect		.159
Relationship Satisfaction T1		.989

Table 22. Hierarchical Regression Analysis testing Expanded Sense of Self as a predictor of Relationship Satisfaction at T3.

Predictors	Relationship Satisfaction	
	R ²	T3 β
Step 1	.011	
Expanded Sense of Self		-.090
Step 2	.758**	
Expanded Sense of Self		.090
Need for Cognition		-.197
Positive Affect		.040
Negative Affect		-.386*
Relationship Satisfaction T1		1.237**

Figures

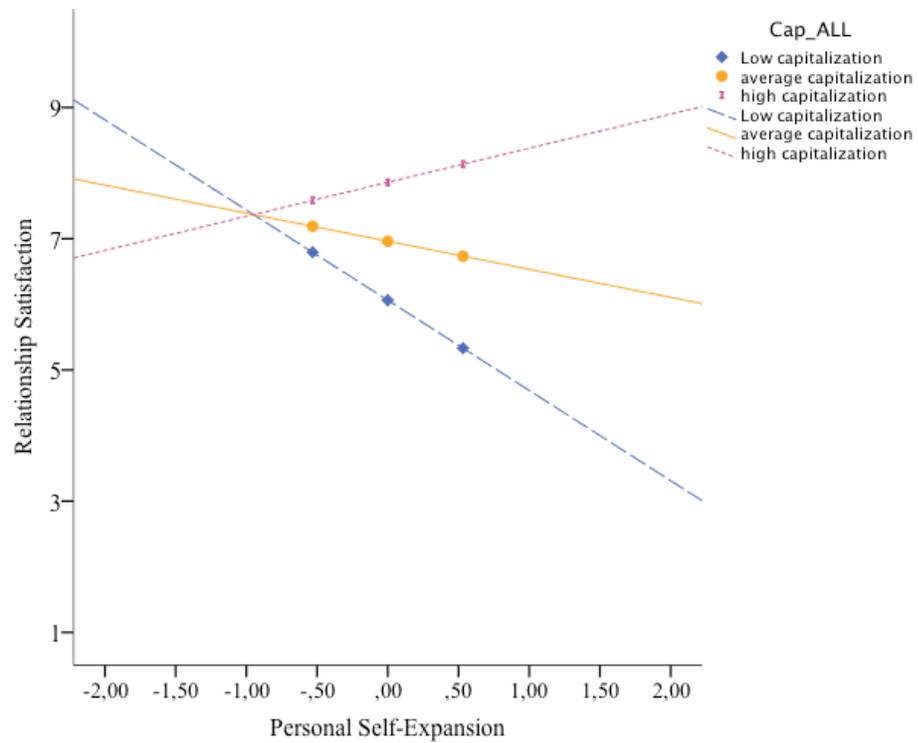


Figure 1. Displaying the interaction effect between Personal Self-Expansion and Capitalization on Relationship Satisfaction

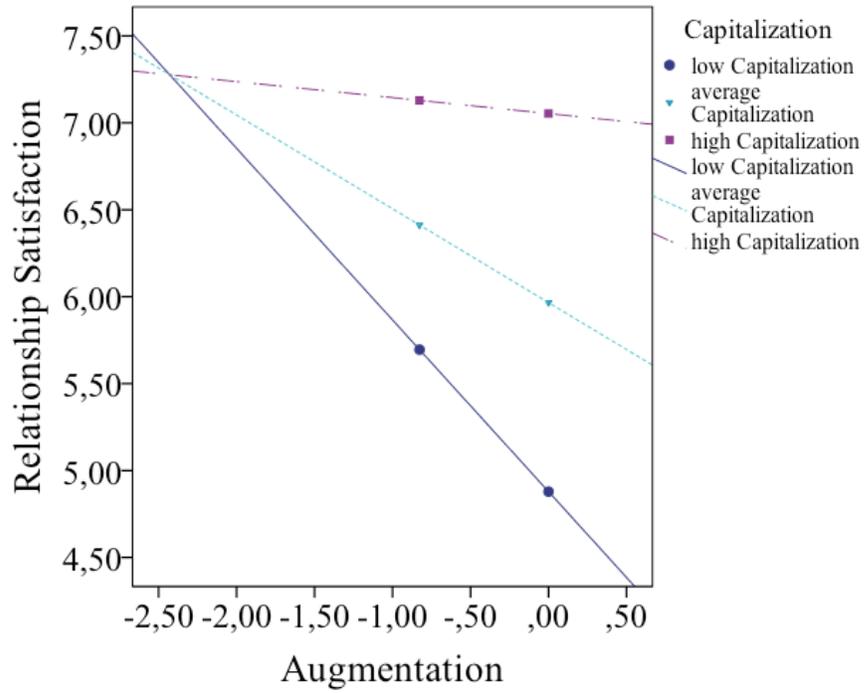


Figure 2. Displaying the Interaction Effect of Augmentation and Capitalization on Relationship Satisfaction.

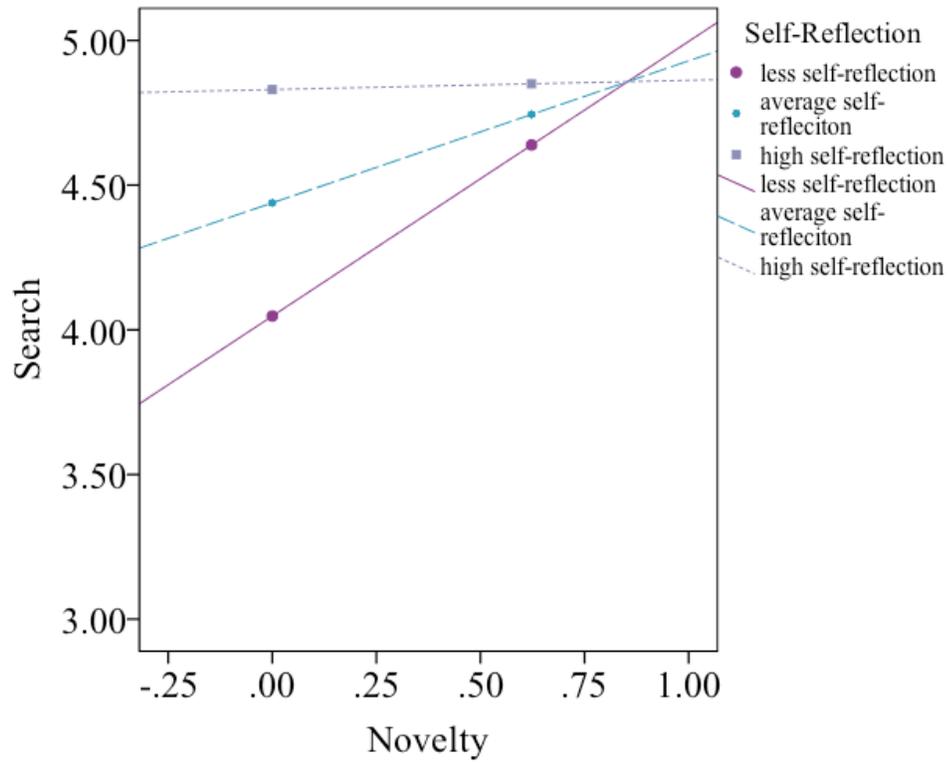


Figure 3. Displaying the interaction effect of Novelty and Self-Reflection on the Search for Meaning in Life

Appendices

Appendix A: Materials for Study 1

We are looking for participants who would like to take part in our 10-min. study. You will be asked to answer questions regarding your close relationship and your personal preferences as well as about some of your demographic information. The study will be completed online at a secure site (Qualtrics) and you will receive US \$0.50 in compensation for your time. Your responses will be anonymous. This research is being conducted by Dr. Cheryl Harasymchuk and Johanna Boettcher from Carleton University.

If you have any concerns or questions regarding this study, please contact:

Dr. Cheryl Harasymchuk at Cheryl.Harasymchuk@carleton.ca

This study has received clearance by the Carleton University Research Ethics Board-B, Canada (15-xxx).

On the last page of the survey, you'll find a completion code.

Please copy your completion code here in order to receive compensation:

Informed Consent Form

The purpose of an informed consent is to ensure that you understand the purpose of the study and the nature of your involvement. The informed consent is intended to provide sufficient information, such that you have the opportunity to determine whether you wish to participate in the study.

This study has received clearance by the Carleton University Research Ethics Board-B, Canada (15-xxx).

Study Title: Benefits of Personal Growth in and outside Close Relationships

Study Personnel Contact: The Principal Investigators of this project are Dr. Cheryl Harasymchuk (Faculty, Cheryl.harasymchuk@carleton.ca; phone: 1 613-520-2600 ext. 3056) and Johanna Boettcher (Graduate student, johannaboettcher@cmail.carleton.ca) from Carleton University.

Contact in case of concerns: Should you have any ethical concerns about this study then please contact Dr. Shelley Brown (Chair, Carleton University Research Ethics Board-B, 1 613-520-2600, ext. 1505; Shelley_Brown@carleton.ca). You may also contact the Research Ethics Office directly at ethics@carleton.ca.

Purpose and Task Requirements: The general purpose of this study is to examine the effect that personal growth might have for the self and for close relationships. We will ask you a few questions about your personal preferences and about your close relationship. The study will take approximately 10 minutes to complete. We cannot explain our hypotheses fully at this point. However, at the end of the study you will receive a debriefing statement in which we outline our research question and hypotheses.

Potential Risk and Discomfort: We do not anticipate any psychological or physical risk to participants. However, keep in mind that you may skip questions or discontinue the survey at any time without any penalties.

Compensation: You will receive \$0.50 US dollars through Crowdfunder payments for your participation.

Anonymity/Confidentiality: The data collected in this experiment are anonymous; we will not ask you to list any identifying information. In potential publications of this research, only aggregated data (means and correlations) will be reported. Anonymous data might be shared with trusted colleagues or archived in online data repositories. Anonymous data will be kept indefinitely. We collect data through the software Qualtrics.

Right to Withdraw: Your participation in this study is entirely voluntary. At any point during the study you have the right to not complete certain questions or to withdraw with no penalty whatsoever. If you decide to withdraw from the study at any point you will still receive full compensation for your participation. We ask that if you decide to drop out from the study that you press “end this survey now” at the bottom of the page and read the Debriefing form at the end of the study where you will also retrieve your completion code.

I have read the above description of the study concerning romantic relationship experiences. The data collected will be used in research publications and/or for teaching purposes. My endorsement indicates that I agree to participate in the study, and this in no way constitutes a waiver of my rights. I am at least 18 years of age.

I agree _____ I disagree – Exit

Demographic questionnaire

You will first be asked some demographic questions.

Gender: (circle one) Female Male Other

Age: _____ (in years)

What is your current "relationship status"?

- _____ Single
- _____ Casually Dating
- _____ Seriously or Exclusively Involved
- _____ Engaged
- _____ Cohabiting (living together)
- _____ Married/Common Law

If married, were other people involved in setting up your marriage?
(Please circle one)

Yes

No

Other (please specify) : _____.

Please estimate approximately how long (in months) you have been involved in your current close relationship:

_____ (months)

How often do you see your significant other?

- _____ daily
- _____ more than once a week
- _____ a few times a month
- _____ less than once a month

Is English your first language? (circle one) Yes No

If you answered no, how long have you spoken English for?

Personal Self-Expansion Scale (Gordon & Luo, 2011)

Please respond to the item by rating your agreement on a scale from one to five (where 1 = strongly disagree and 5 = strongly agree).

1. I enjoy gaining a more thorough understanding of something I already know
2. I am always interested in finding new things to try
3. Once I have a basic understanding of something, I do not feel it is necessary to learn more about it (R)
4. I usually seek out new opportunities or experiences
5. Trying to learn more about something I already understand is usually not worth the effort (R)
6. I generally prefer to have more familiarity and stability (R)
7. Exploring something in depth is usually pretty tedious and boring (R)
8. Trying new things is important for me to stay happy
9. There are better ways to spend my time than trying to learn more about something I basically understand (R)
10. I place a lot of importance on experiencing new things

Perceived Responses to Capitalization Attempts Scale by Gable, Reis, Impett, and Asher (2004)

Please take a moment to consider how your partner responds when you tell him or her something good that has happened to you. For example, imagine that you come home and tell your partner about receiving a promotion at work, having a great conversation with a family member, getting a raise, winning a prize, or doing well on an exam at school or a project at work. On a scale, from 1 (not at all true) to 7 (very true), please consider to what extent your partner does the following things in response to your good fortune using the sentence.

To make rating the items below easier you may want to use each statement to complete the sentence “ When I tell my partner about something good that has happened to me ... ”

1. My partner usually reacts to my good fortune enthusiastically
2. I sometimes get the sense that my partner is even more happy and excited than I am
3. My partner often asks a lot of questions and shows genuine concern about the good event
4. My partner tries not to make a big deal out of it, but is happy for me
5. My partner is usually silently supportive of the good things that occur to me
6. My partner says little but I know he / she is happy for me
7. My partner often finds a problem with it
8. My partner reminds me that most good things have their bad aspects as well
9. He / She points out the potential downsides of the good event

- 10. Sometimes I get the impression that he / she doesn't care too much
- 11. My partner does not pay much attention to me
- 12. My partner often seems disinterested.

Relationship Satisfaction Assessment using an adapted version of Rusbult, Martz, and Agnew's (1998) Investment Model Scale

Please indicate the degree to which you agree with each of the following statements regarding

your current relationship (please circle a number)

- 1. I feel satisfied with our relationship (please circle a number).

0 1 2 3 4 5 6 7 8

Do not
agree at
all

Somewhat
agree

Completely
agree

- 2. My relationship is much better than other's relationships

0 1 2 3 4 5 6 7 8

Do not
agree at
all

Somewhat
agree

Completely
agree

- 3. My relationship is close to ideal

0 1 2 3 4 5 6 7 8

Do not
agree at
all

Somewhat
agree

Completely
agree

5. I try to anticipate and avoid situations where there is likely chance I will have to think in depth about something. (R)
6. I find satisfaction in deliberating hard and for long hours.
7. I only think as hard as I have to. (R)
8. I prefer to think about small, daily projects to long-term ones. (R)
9. I like tasks that require little thought once I've learned them. (R)
10. The idea of relying on thought to make my way to the top appeals to me.
11. I really enjoy a task that involves coming up with new solutions to problems
12. Learning new ways to think doesn't excite me very much. (R)
13. I prefer my life to be filled with puzzles that I must solve.
14. The notion of thinking abstractly is appealing to me
15. I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.
16. I feel relief rather than satisfaction after completing a task that required a lot of mental effort. (R)
17. It's enough for me that something gets the job done; I don't care how or why it works. (R)
18. I usually end up deliberating about issues even when they do not affect me personally.

The Meaning in Life Questionnaire (Steger, Frazier, Oishi, Kaler, 2006)

Please take a moment to think about what makes your life feel important to you. Please respond to the following statements as truthfully and accurately as you can, and also please remember that these are very subjective questions and that there are no right or wrong answers. Please answer according to the scale below:

Absolutely Untrue	Mostly Untrue	Somewhat Untrue	Can't Say True or False	Somewhat True	Mostly True	Absolutely True
1	2	3	4	5	6	7

1. ____ I understand my life's meaning.
2. ____ I am looking for something that makes my life feel meaningful.
3. ____ I am always looking to find my life's purpose.
4. ____ My life has a clear sense of purpose.
5. ____ I have a good sense of what makes my life meaningful.
6. ____ I have discovered a satisfying life purpose.
7. ____ I am always searching for something that makes my life feel significant.
8. ____ I am seeking a purpose or mission for my life.

- 9. _____ My life has no clear purpose.
- 10. _____ I am searching for meaning in my life.

MLQ syntax to create Presence and Search subscales:

Presence = 1, 4, 5, 6, & 9-reverse-coded

Search = 2, 3, 7, 8, & 10

Positive and Negative Affect Scale by Watson, D., Clark, L. A., & Tellegen, A. (1988)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way right now, that is, at the present moment. Use the following scale to record your answers.

1	2	3	4	5
Very slightly or not at all	A little	moderately	Quite a bit	extremely

- | | |
|---|--|
| _____ Interested
_____ Distressed
_____ Excited
_____ Upset
_____ Strong
_____ Guilty
_____ Scared
_____ Hostile
_____ Enthusiastic
_____ Proud
_____ | _____ Irritable
_____ Alert
_____ Ashamed
_____ Inspired
_____ Nervous
_____ Determined
_____ Attentive
_____ jittery
_____ Active
_____ afraid |
|---|--|

Self-Reflection & Insight Scale (Grant, Franklin, & Langford, 2002)

Please rate the extent to which you agree to the following statements on a 6-point scale where 1 = strongly disagree and 6 = strongly agree

Self-Reflection

- 1) I don't often think about my thoughts (R)
- 2) I rarely spend time in self-reflection (R)
- 3) I frequently examine my feelings
- 4) I don't really think about why I behave in the way that I do (R)
- 5) I frequently take time to reflect on my thoughts
- 6) I often think about the way I feel about things
- 7) I am not really interested in analyzing my behaviour (R)
- 8) It is important for me to evaluate the things that I do
- 9) I am very interested in examining what I think about
- 10) It is important to me to try to understand what my feelings mean
- 11) I have a defined need to understand the way my mind works
- 12) It is important to me to be able to understand how my thoughts arise

Insight

- 1.) I am usually aware of my thoughts
- 2.) I am often confused about the way that I really feel about things
- 3.) I usually have a very clear idea about why I've behaved in a certain way
- 4.) I am often aware that I'm having a feeling, but I often don't quite know what it is (R)
- 5.) My behaviour often puzzles me (R)
- 6.) Thinking about my thoughts makes me more confused (R)
Often I find it difficult to make sense of the way I feel about things (R)
- 7.) I usually know why I feel the way I do
- 8.)

Debriefing Sheet for Study 1

Study Title: Benefits of Personal Growth in and outside of Close Relationships

Thank you for completing this study. The completion code is YPTGF

Please enter this code in the Crowdfunder window to receive US \$0.50.

What am I trying to learn in this research?

The current study is examining whether finding personal growth outside of the relationship is associated with well-being in close relationships.

What are the hypotheses?

We predict that those who have natural tendency to seek out personal growth opportunities will show greater levels of relationship satisfaction. Furthermore, we also hypothesize that those who naturally engage in more self-reflection and seek out personal growth will show even higher levels of relationship satisfaction compared to those who do not engage in any reflection.

Why is this important to scientists or the general public?

Given that close relationships have a large impact on our well-being, it is important that research focuses on the psychological mechanisms and personal needs that could contribute to happier relationships and not just on ways to best avoid relational conflict.

Where can I learn more?

For general information on growth in close relationships, please visit the following websites:

http://www.nytimes.com/2011/01/02/weekinreview/02parkerpope.html?_r=0

http://www.ipearlab.org/media/publications/Self-Expansion_Theory___Encyclopedia_of_Social_Psychology.pdf

<http://www.psych-it.com.au/Psychlopedia/article.asp?id=231>

Contact Information

For additional questions or comments, please contact the principal Investigators of this project: Dr. Cheryl Harasymchuk (Faculty member, Cheryl.Harasymchuk@carleton or Johanna Boettcher (Graduate student, johannaboettcher@cmail.carleton.ca).

In case of ethical concerns about this study, please contact Dr. Shelley Brown (Chair, Carleton University Research Ethics Board-B, 1 613-520-2600, ext. 1505; Shelley_Brown@carleton.ca).

This study has received clearance by the Carleton University Research Ethics Board-B, Canada (15-xxx).

Thank you for your participation!

To ensure maximum confidentiality, please exit this browser by clicking “Next” at the bottom of this page.

Appendix B: Materials for Study 2**Informed Consent**

The purpose of an informed consent is to ensure that you understand the purpose of the study and the nature of your involvement. The informed consent is intended to provide sufficient information, such that you have the opportunity to determine whether you wish to participate in the study. In order to participate in this study you must be currently involved in a close relationship (e.g., dating, married).

This study has received clearance by the Carleton University Research Ethics Board B (16-005). The ethics clearance will expire on August, 31st, 2016.

Study Title: Creative Expression in the Relational Context

Study Personnel Contact: The Principal Investigators of this project are Johanna Boettcher (Graduate student, johannaboettcher@cmail.carleton.ca) and Dr. Cheryl Harasymchuk (Faculty, cheryl_harasymchuk@carleton.ca; phone: 1 613-520-2600 ext. 3056) from Carleton University. The Research Assistant for this study will be Deanna Walker (Graduate student).

Contact in case of concerns: Should you have any ethical concerns about this study then please contact Dr. Shelley Brown (Chair, Carleton University Research Ethics Board-B, 1 613-520-2600, ext. 1505; Shelley_Brown@carleton.ca). You may also contact the Research Ethics Office directly at ethics@carleton.ca.

Purpose and Task Requirements: The general purpose of this study is to examine the effects of creative expression on close relationships. You will be asked to complete a series of brief questionnaires related to your relationship and yourself. In addition, you will be asked to engage in a creative process including play dough and other utensils. Using these materials you will be asked to form a sculpture. Please note that the end product of your sculpture will not be assessed in any way. The complete study will take about 45 minutes in the lab and a 10-minute online follow-up questionnaire that will be emailed to you in 48 hours. We cannot explain our hypotheses fully at this point. However, at the end of the study you will receive a debriefing statement in which we outline our research question and hypothesis.

Potential Risk and Discomfort: We do not anticipate any physical, social or legal risks to participants. In the very unlikely event that you experience any negative emotions (a minor psychological risk) while answering questions about your relationship, we expect these feelings to dissipate within a short amount of time. Please keep in mind that you may skip questions or discontinue the study at any time without any penalties.

Compensation: You must, at the very least, agree to this informed consent in order to receive a **.75% grade increase** toward your Research Participation Credits for

participating in the lab study. Should you choose to withdraw at any point during the lab study, you will still receive the compensation. Please note that you will receive an additional **.25% grade increase** toward your Research Participation Credits and enter a draw to win one of two \$50 movie theatre tickets, if you also complete the follow-up questionnaire and email it back within 24 hours. The chance of winning one of the movie tickets is two in 100 as per protocol.

Anonymity/Confidentiality: We will be asking you to provide your email address in order to email you the follow-up questionnaire and if you chose not to participate in that, we will email you a complete debriefing form. However, we will keep your identifying information separated from your responses to any of the questionnaires. After completion of the study and determination of the winner of the draw, the information including your name and email address will be shredded and confidentially disposed. In potential publications or presentations of this research, only aggregated data (means and correlations) will be reported. Anonymous data might be shared with trusted colleagues. Anonymous electronic data files will be retained on secure, password protected computers indefinitely.

Right to Withdraw: Your participation in this study is entirely voluntary. At any point during the study you have the right to not complete certain questions, to not engage in an activity, or to withdraw with no penalty whatsoever. If you decide to withdraw from the study at any point you will still receive full compensation for your participation in the lab study. Participants cannot withdraw after the study is completed because all data collected will be anonymous. We ask that if you decide to drop out from the study that you read the Debriefing form that will be emailed to you after the time to complete the follow-up questionnaire has passed.

I have read the above description of the study concerning the benefits of creative activities for close relationships. The data collected will be used in research publications and/or for teaching purposes. My endorsement indicates that I agree to participate in the study, and this in no way constitutes a waiver of my rights.

1.) *In the following questionnaire, you will first be asked some demographic questions.*

Gender: (circle one) Female Male Other

Age: (in years)

What is your current “relationship status”?

- Casually Dating
- Seriously or Exclusively Involved
- Engaged
- Cohabiting (living together)
- Married/Common Law

If married, were other people involved in setting up your marriage?
(Please circle one)

Yes No

Other (please specify) : _____.

Please estimate approximately how long (in months) you have been involved in your current close relationship:

_____ (months)

Is English your first language? (circle one) Yes No

If you answered no, how long have you spoken English for?

2.) *Please indicate the degree to which you agree with each of the following statements regarding your current relationship (please circle a number)*

1. I feel satisfied with our relationship (please circle a number).

0 1 2 3 4 5 6 7 8

3.) *For each of the statements below, please indicate to what extent the statement is characteristic of you. If the statement is extremely uncharacteristic of you (not at all like you) please write a "1" to the left of the question; if the statement is extremely characteristic of you (very much like you) please write a "5" next to the question. Of course, a statement may be neither extremely uncharacteristic nor extremely characteristic of you; if so, please use the number in the middle of the scale that describes the best fit. Please keep the following scale in mind as you rate each of the statements below: 1 = extremely uncharacteristic; 2 = somewhat uncharacteristic; 3 = uncertain; 4 = somewhat characteristic; 5 = extremely characteristic*

1. ____ I would prefer complex to simple problems
2. ____ I like to have the responsibility of handling a situation that requires a lot of thinking
3. ____ Thinking not my idea of fun.
4. ____ I would rather do something that requires little thought than something is sure to challenge my thinking abilities.
5. ____ I try to anticipate and avoid situations where there is likely chance I will have to think in depth about something.
6. ____ I find satisfaction in deliberating hard and for long hours.
7. ____ I only think as hard as I have to.
8. ____ I prefer to think about small, daily projects to long-term ones.
9. ____ I like tasks that require little thought once I've learned them.
10. ____ The idea of relying on thought to make my way to the top appeals to me.
11. ____ I really enjoy a task that involves coming up with new solutions to problems
12. ____ Learning new ways to think doesn't excite me very much.
13. ____ I prefer my life to be filled with puzzles that I must solve.
14. ____ The notion of thinking abstractly is appealing to me
15. ____ I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.
16. ____ I feel relief rather than satisfaction after completing a task that required a lot of mental effort.

17. ____ It's enough for me that something gets the job done; I don't care how or why it works.
18. ____ I usually end up deliberating about issues even when they do not affect me personally.

4.) *Please take a moment to think about what makes your life feel important to you. Please respond to the following statements as truthfully and accurately as you can, and also please remember that these are very subjective questions and that there are no right or wrong answers. Please answer according to the scale below:*

Absolutely Untrue	Mostly Untrue	Somewhat Untrue	Can't Say True or False	Somewhat True	Mostly True	Absolutely True
1	2	3	4	5	6	7

1. ____ I understand my life's meaning.
2. ____ I am looking for something that makes my life feel meaningful.
3. ____ I am always looking to find my life's purpose.
4. ____ My life has a clear sense of purpose.
5. ____ I have a good sense of what makes my life meaningful.
6. ____ I have discovered a satisfying life purpose.
7. ____ I am always searching for something that makes my life feel significant.
8. ____ I am seeking a purpose or mission for my life.
9. ____ My life has no clear purpose.
10. ____ I am searching for meaning in my life.

Materials for the “Self-Reflection” Condition

5.) *If you were asked to create an arts sculpture that represents who you are, what would it look like?*

Please use the play dough and the utensils provided to make a model of how you imagine the sculpture to be. Please be aware that the purpose of this study is not meant to assess your artistic abilities in any way. We are interested in the creative process you engage in rather than in what the end result will look like. You have complete freedom in regards to how the sculpture should look like. It could be abstract or not-abstract.

You will have 10 minutes to create your sculpture.

6.) *Please reflect on your sculpture in writing for the next 10min. While you are reflecting, you may or may not want to consider the following questions:*

1. *Why did you choose to make the sculpture this way (e.g., shape, texture)?*
2. *Which aspect of the sculpture is most important to you?*
3. *Which aspect of the sculpture describes a particular trait you have?*
4. *What do you think this sculpture says about you as a person?*

Materials for the “No Self-Reflection” Condition

5.) *If you were asked to create an arts sculpture on the Carleton campus, what would it look like?*

Please use the play dough and the utensils provided to make a model of how you imagine the sculpture to be. Please be aware that the purpose of this study is not

meant to assess your artistic abilities in any way. We are interested in the creative process you engage in rather than in what the end result will look like. You have complete freedom in regards to how the sculpture should look like. It could be abstract or not-abstract.

You will have 10 minutes to create your sculpture.

6.) Please explain your sculpture for the next 10 min. in writing. You may or may not want to consider the following questions when explaining your sculpture:

- 1. If you had to convince the president of Carleton University to build your sculpture, how would you convince her?*
- 2. Which aspect of the sculpture represents symbols of the culture at Carleton University?*
- 3. Which aspect of the sculpture do you think is most important and why?*
- 4. Where on campus should this sculpture be placed and why would that be a particularly suitable location for your sculpture?*

Following the self-expansion and writing activities, the materials were identical for both conditions.

In this section of the study you will be asked a few follow-up questions regarding your experience making the sculpture. Please select the appropriate rating where 1 = not very much, 2 = a little, 3 = Somewhat, 4 = To a moderate extent, 5 = considerably, 6 = Much, 7 = Very Much)

1. ____ How much was making the sculpture a new experience for you?
2. ____ To what extent was making the sculpture making you feel a greater awareness of the world around you?
3. ____ How much did making the sculpture help you expand your sense of the kind of person you are
4. ____ How challenging was making the sculpture for you?

5. ____ How much did you learn something new about yourself by making a sculpture?
6. ____ How much did making the sculpture make you feel that you have a larger perspective on things?

8.) In this section of the study you will be asked a few follow-up questions regarding your experience making the sculpture. Please select the appropriate rating where 1 = not very much, 2 = a little, 3 = Somewhat 4 = To a moderate extent, 5 = considerably, 6 = Much, 7 = Very Much)

1. ____ How much do you want to share your thoughts after making the sculpture with your partner?
2. ____ How much do you want to share your thoughts after making the sculpture with your best friend?
3. ____ How much do you want to share your thoughts after making the sculpture with a family member other than your partner?
4. ____ How much did you think about partner while making the sculpture?
5. ____ How much did you think about how you would like others to see you besides your partner while making the sculpture?

9.) Please respond to the following statement as truthfully and accurately as you can, and also please remember that this is a very subjective question and that there are no right or wrong answers. Please answer according to the scale below:

Absolutely Untrue	Mostly Untrue	Somewhat Untrue	Can't Say True or False	Somewhat True	Mostly True	Absolutely True
1	2	3	4	5	6	7

1. ____ I currently feel very satisfied in my close relationship.
2. ____ There is currently more satisfaction in my relationship than in the average close relationship.

10.) Please respond to the following statement as truthfully and accurately as you can, and also please remember that this is a very subjective question and that there are no right or wrong answers. Please answer according to the scale below:

Absolutely Untrue	Mostly Untrue	Somewhat Untrue	Can't Say True or False	Somewhat True	Mostly True	Absolutely True
1	2	3	4	5	6	7

1. ____ My life has a clear sense of purpose.

11.) This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way right now, that is, at the present moment. Use the following scale to record your answers.

1	2	3	4	5
Very slightly or not at all	A little	moderately	Quite a bit	extremely

____ Interested

____ Distressed

____ Excited

____ Upset

____ Strong

____ Guilty

____ Scared

____ Hostile

- _____ Enthusiastic
- _____ Irritable
- _____ Alert
- _____ Ashamed
- _____ Inspired
- _____ Nervous
- _____ Determined
- _____ Attentive
- _____ Jittery
- _____ Active
- _____ Afraid

Partial Debriefing Sheet

Study Title: Creative expressions in a Relational Context

What am I trying to learn in this research?

Given that your answers to the follow-up questionnaire, which will be emailed to you in 48 hours, are very important to test our hypotheses, we cannot fully disclose our research question at this point as it could potentially bias your answers to the follow-up questionnaire. You will be provided with a full explanation of our research question and hypotheses after the follow-up questionnaire.

How will I be compensated?

You will receive 0.75% credit increase towards your research participation mark for completing the lab part of this study. If you complete the online follow-up questionnaire as well, you will receive an **extra 0.25%** credit increase (i.e., 1 credit in total) and enter a draw to win one of **two \$50 movie theatre tickets**.

Is there anything I can do if I found this experiment to be emotionally upsetting?

Yes, if you feel any distress or anxiety after participating in this study, please feel free to contact the Carleton University Health and Counselling Services at: 613-520-6674, or the Distress Centre of Ottawa and Region at 613-238-3311 (<http://www.dcottawa.on.ca>).

Do you have questions relating to this study?

If you have any *questions or concerns* about this research, please feel free to contact the principal investigators of this project Johanna Boettcher (MA student, johannaboettcher@cmail.carleton.ca) and Dr. Cheryl Harasymchuk (Faculty, Cheryl.Harasymchuk@carleton.ca; phone: 1 613-520-2600 ext. 3056) from Carleton University.

Should you have any *ethical concerns* about this research, please contact Dr. Shelley Brown (Chair, Carleton University Research Ethics Board - B, shelley_brown@carleton.ca, 613-520-2600, ext. 6026)

Informed Consent for Follow-Up Questionnaire

The purpose of an informed consent is to ensure that you understand the purpose of the study and the nature of your involvement. The informed consent is intended to provide sufficient information, such that you have the opportunity to determine whether you wish to participate in the study.

This study has received clearance by the Carleton University Research Ethics Board B (15-XXX).

Study Title: Creative Expression in the Relational Context

Study Personnel Contact: The Principal Investigators of this project are Johanna Boettcher (Graduate student, johannaboettcher@cmail.carleton.ca) and Dr. Cheryl Harasymchuk (Faculty, cheryl_harasymchuk@carleton.ca; phone: 1 613-520-2600 ext. 3056) from Carleton University.

Contact in case of concerns: Should you have any ethical concerns about this study then please contact Dr. Shelley Brown (Chair, Carleton University Research Ethics Board-B, 1 613-520-2600, ext. 1505; Shelley_Brown@carleton.ca). You may also contact the Research Ethics Office directly at ethics@carleton.ca.

Purpose and Task Requirements: The general purpose of this study is to examine the effect of creative expressions on close relationships. You will be asked to complete a series of brief questionnaires related to your relationship and yourself as well as to your experiences in the lab the other day. The complete study will take about 10-minutes. We cannot explain our hypotheses fully at this point. However, at the end of the study you will receive a debriefing statement in which we outline our research question and hypothesis.

Potential Risk and Discomfort: We do not anticipate any physical, social or legal risks to participants. In the very unlikely event that you experience any negative emotions (a minor psychological risk) while answering questions about your relationship, we expect these feelings to dissipate within a short amount of time. Please keep in mind that you may skip questions or discontinue the study at any time without any penalties.

Compensation: You must, at the very least, agree to this informed consent in order to receive a **.25% grade increase** toward your Research Participation Credits and to enter a draw to win one of two \$50 movie theatre tickets for participating in this survey. Should you choose to withdraw at any point during the lab study, you will still receive the compensation.

Anonymity/Confidentiality: We will be asking you to provide your name and email address in order to enter you into the draw to win a prize. However, after your name entered the draw, we will keep it separated from your responses to any of the questionnaires. After completion of the study and determination of the winner of the draw, your name and email address will be deleted. In potential publications of this research, only aggregated data (means and correlations) will be reported. Anonymous data might be shared with trusted colleagues. Anonymous electronic data files will be retained on secure, password protected computers indefinitely.

Right to Withdraw: Your participation in this study is entirely voluntary. At any point during the study you have the right to not complete certain questions or to withdraw with no penalty whatsoever. If you decide to withdraw from the study at any point you will still receive full compensation. Participants cannot withdraw after the study is completed because all data collected will be anonymous. We ask that if you decide to drop out from the study that you read the Debriefing form at the end of the study.

I have read the above description of the study concerning the effects of creative expression on close relationships. The data collected will be used in research publications and/or for teaching purposes. My endorsement indicates that I agree to participate in the study, and this in no way constitutes a waiver of my rights.

If you agree to the above description please click on “*YES, Start Survey*”
If you do not wish to participate then click on “*No, Decline to Participate.*”

Study Materials for Follow-Up

Thank you for taking the time and coming into the lab the other day. We appreciate your participation in the study and promise that this follow-up questionnaire won't take long. Please complete this follow-up questionnaire within the next 24 hours. After filling out this questionnaire, you will be debriefed about the purpose of this study.

- 1.) Did you share your experience in the lab the other day with your partner?**
 - a. Yes
 - b. No

- c. If yes, please briefly explain how you shared it with your partner (e.g., talked about your experience in person, via text message, briefly mentioned it)
- d. If yes, how often did you share your experiences in the lab with another person (i.e., not your partner)? Just once, less than 3 times, more than 3 times

If participants answered “yes”, they will be provided with the adapted of the capitalization scale.

If participants answered “no”, they will proceed to the second question.

2.) Did you share your experience in the lab the other day with a friend or family member?

- a. Yes
- b. No
- c. If yes, please briefly explain how you shared it with your partner (e.g., talked about your experience in person, via text message, briefly mentioned it)
- d. If yes, how often did you share your experiences in the lab with another person (i.e., not your partner)? Just once, less than 3 times, more than 3 times

If participants answered “no”, they will proceed to the assessment of the dependent variables.

Adapted Perceived Responses to Capitalization Attempts Scale by Gable, Reis, Impett, and Asher (2004)

Please take a moment to consider how your partner responded when you told him about the your experience making a sculpture in the lab. On a scale, from 1 (not at all true) to 7 (very true), please consider to what extent your partner did the following in response to hearing about your experience.

1. My partner reacted enthusiastically when I told him / her about my ideas that came up during the exercises I recently completed in the lab.
2. I got the sense that my partner was even more happy and excited than I was about my ideas and thoughts.
3. My partner asked a lot of questions and showed genuine concern about the good event about my thoughts and ideas that I generated during the experiment?
4. My partner tried not to make a big deal out of my ideas that I was thinking about during the experiment, but is happy for me

5. My partner was silently supportive of the ideas that occurred to me while I participated in the experiment.
6. My partner said little to my ideas from the experiment but I know he / she was happy for me
7. My partner found a problem with it with my ideas that I generated during the experiment
8. My partner reminded me of the good and bad aspects of my ideas that I came up with during the experiment.
9. He / She pointed out the potential downsides of my ideas that I came up with during the experiment?
10. I got the impression that he / she didn't care too much about my ideas that I thought about during the experiment?
11. My partner did not pay much attention to my ideas and thoughts that I generated during the experiment.
12. My partner seemed disinterested in the ideas that I came up with during the experiment.

Dependent Variables

Relationship Satisfaction using an adapted version of Rusbult, Martz, and Agnew's (1998) Investment Model Scale

Please indicate the degree to which you agree with each of the following statements regarding your current relationship (please circle a number)

1. I feel satisfied with our relationship (please circle a number).

0 1 2 3 4 5 6 7 8

Do not
agree at
all

Somewhat
agree

Completely
agree

2. My relationship is much better than other's relationships

0 1 2 3 4 5 6 7 8

Do not
agree at
all

Somewhat
agree

Completely
agree

3. My relationship is close to ideal

INTEGRATION & BENEFITS OF SELF-EXPANSION

0	1	2	3	4	5	6	7	8
Do not agree at all				Somewhat agree				Completely agree

4. Our relationship makes me very happy

0	1	2	3	4	5	6	7	8
Do not agree at all				Somewhat agree				Completely agree

5. Our relationship does a good job of fulfilling my needs for intimacy, companionship, etc.

0	1	2	3	4	5	6	7	8
Do not agree at all				Somewhat agree				Completely agree

The Meaning in Life Questionnaire (Steger, Frazier, Oishi, Kaler, 2006)

Please take a moment to think about what makes your life feel important to you. Please respond to the following statements as truthfully and accurately as you can, and also please remember that these are very subjective questions and that there are no right or wrong answers. Please answer according to the scale below:

Absolutely Untrue	Mostly Untrue	Somewhat Untrue	Can't Say True or False	Somewhat True	Mostly True	Absolutely True
1	2	3	4	5	6	7

1. ____ I understand my life's meaning.
2. ____ I am looking for something that makes my life feel meaningful.

3. ____ I am always looking to find my life's purpose.
4. ____ My life has a clear sense of purpose.
5. ____ I have a good sense of what makes my life meaningful.
6. ____ I have discovered a satisfying life purpose.
7. ____ I am always searching for something that makes my life feel significant.
8. ____ I am seeking a purpose or mission for my life.
9. ____ My life has no clear purpose.
10. ____ I am searching for meaning in my life.

MLQ syntax to create Presence and Search subscales:

Presence = 1, 4, 5, 6, & 9-reverse-coded

Search = 2, 3, 7, 8, & 10

Full Debriefing Sheet for Study 2

Study Title: Creative Expression in a Relational Context

What are we trying to learn in this research?

Previous studies examining close relationships have found that engaging in novel, challenging, or exciting activities with the intimate partner increases relationship satisfaction. We were interested in exploring whether the engagement in a novel, challenging, exciting, and personally meaningful activity that does not involve one's partner, would have similar effects on relationship satisfaction. Furthermore, we were interested in knowing whether or not the engagement in such activities has benefits to the self, such as enhanced perception of meaning in life. Additionally, we were interested in the role that reflection on that activity might play to enhance the effect on either relationship satisfaction or on perceived meaning in life.

What is the hypothesis?

As mentioned in the instructions for making the sculpture, we were not really interested in the creative outcome but rather in the process you engaged in. We assumed that a creative process that had personal meaning would represent an opportunity for personal

growth. Thus, we predicted that participants who engaged in such a growth facilitating process and self-reflected on that process would report greater levels of relationship satisfaction and perceived meaning in life compared to those who participated in a neutral creative process that did not include any personal meaning or reflection activity.

Why is this important to scientists or to the general public?

The impact of personal growth has rarely been studied in association with the benefits it may have for close relationships. Given that it has shown to have strong benefits for an individual person, it may also be linked with increased well-being in the relationship. Thus, research on the benefits of personal growth in the relationship does not only contribute to a current gap in the literature but could also help couples to live in happier relationships.

Where can I learn more?

For more information on the benefits of physical activities in relationships:

Aron, A., & Aron, E. (1986). *Love and the expansion of self: Understanding attraction and satisfaction*. Washington: Hemisphere Pub. Corp.

Aron, A., & Aron, E. N. (2014). Climbing diotima's mountain: Marriage and achieving our highest goals. *Psychological Inquiry*, 25(1), 47-52.

Finkel, E. J., Hui, C. M., Carswell, K. L., & Larson, G. M. (2014). The suffocation of marriage: Climbing Mount Maslow without enough oxygen. *Psychological Inquiry*, 25(1), 1-41.

For general information on relationships from the view of social psychology, please visit:

<http://www.scienceofrelationships.com/>

Contact Information

For additional questions or comments, please contact the principal Investigators of this project: Johanna Boettcher (Graduate student, johannaboettcher@gmail.com) or Dr. Cheryl Harasymchuk (Faculty member, cheryl_harasymchuk@carleton.ca).

Should you have any ethical concerns about this study then please contact Dr. Shelley Brown (Chair, Carleton University Research Ethics Board-B, 1 613-520-2600, ext. 1505; Shelley_Brown@carleton.ca). You may also contact the Research Ethics Office directly at ethics@carleton.ca.

This study has received clearance by the Carleton University Research Ethics Board B (15-XXX).

Thank you for your participation!

To ensure maximum confidentiality, please exit this browser by clicking "Next" at the bottom of this page.

Appendix C: Certificate of Ethics Clearance

Carleton University Research Ethics Board (CUREB)

Certificate of Ethics Clearance

Principal Investigator	Department	StudyNumber
<input type="text" value="Johanna Boettcher"/>	<input type="text" value="Psychology"/>	<input type="text" value="16-005"/>

Co-Investigators and other researchers:

Researcher	Study Role	Position
Cheryl Harasymchuk	Faculty Supervisor	Faculty

Study Title: **The Role of Personal Self-Expansion and its Integration into the Relational and Non-Relational Context**

Approval Date: <input type="text" value="01/12/2016"/>	Expiry Date: <input type="text" value="08/31/2016"/>	Approval Type: <input type="text" value="Final"/>
--	--	---

Submitted Date	Study Component	Approval Date

Validity Term:

Comments:

Certification

The protocol describing the above-named project has been reviewed by Carleton University Research Ethics Board and the research procedures were found to be acceptable on ethical grounds for research involving human participants.



Chair, Carleton University Research Ethics Board (CUREB)

This Certificate of Clearance is valid for the above term provided there is no change in the research procedures.

