Promoting self-compassion through the activation of care-seeking and caregiving mentalities:

Cross-sectional, daily diary, and experimental evidence

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Abstract

Self-compassion is a kind, reassuring way of relating to the self when faced with setbacks and personal difficulties. Not surprisingly, self-compassion is associated with positive psychological functioning and is protective against psychopathology. Despite the robust evidence for the well-being benefits of self-compassion, its underlying or causal mechanisms are not well understood. According to Gilbert (1989, 2000), self-compassion is rooted in care-seeking and caregiving social mentalities which originally evolved to guide interpersonal behaviour, but have now been co-opted for intrapersonal relating. The purpose of the current thesis is to systematically test social mentality theory using a range of study designs.

Using a cross-sectional design, Article 1 examined the combined and interactive effect of care-seeking and caregiving in predicting self-compassion. Participants completed a battery of self-report measures. Exploratory factor analyses were conducted to derive care-seeking and caregiving factors. Consistent with social mentality theory, the combination of high care-seeking and high caregiving predicted the highest level of self-compassion. The lowest level of self-compassion was predicted by the combination of low care-seeking and high caregiving, consistent with the concept of compulsive caregiving.

Using a daily diary methodology, Article 2 examined how care-seeking and caregiving predicted self-compassion across individuals and within individuals. For seven days, participants completed daily measure of received social support, given social support, and self-compassion. At the between-persons level, consistent with social mentality theory, the most self-compassionate individuals were those who received high levels of support and also gave high levels of support. Additionally, consistent with the compulsive caregiving effect found in Article 1, the least self-compassionate individuals were those who gave high levels of support but
received low levels of support in return. At the within-person level, individuals were more self-compassionate on days they received more support than usual and on days they gave more support than usual. Overall, findings provide support for social mentality theory by showing that the degree of care-seeking and caregiving with others, on a daily basis and averaged over time, predicts the ability to be self-compassionate.

Using an experimental design, Article 3 examined whether self-compassion can be promoted through the activation of care-seeking and caregiving mentalities. Given the interaction effects found in Articles 1 and 2, Article 3 examined individual differences in trait care-seeking and trait caregiving as potential moderators. As a preliminary test of whether self-compassion can be promoted in individuals vulnerable to psychopathology, baseline level of perceived stress was examined as an additional moderator. Participants were randomly assigned to recall memories of care-seeking, caregiving, a combination of care-seeking and caregiving, having fun (active control group), or a no-treatment control group. Participants completed the memory recall task twice per day for four days and were assessed on pre- and post-test levels of self-compassion. Findings did not reveal a main effect of condition, but showed moderating effects of trait care-seeking and stress. In response to the caregiving conditions, high care-seekers increased in self-compassion whereas low care-seekers decreased in self-compassion. In response to the care-seeking conditions, highly stressed individuals increased in self-compassion. Findings are mostly consistent with social mentality theory, while also demonstrating the potentially detrimental effects of compulsive caregiving. Findings also suggest care-seeking to be particularly beneficial for individuals experiencing high levels of stress and therefore vulnerable to psychopathology.
Overall, the three articles provide converging evidence that self-compassion relies on the dual activation of care-seeking and caregiving social mentalities. Consistent with social mentality theory, high self-compassion was predicted by the combination of high care-seeking and high caregiving. An unexpected finding showed deficits in self-compassion to be predicted by the combination of low care-seeking and high caregiving. The present findings contribute to a better understanding of the interpersonal factors and underlying mechanisms that either promote or impede self-compassion. Thus, these findings may inform efforts to enhance existing self-compassion interventions or to design novel interventions that indirectly cultivate self-compassion.
Résumé

L'auto-compasion est une méthode complaisante et rassurante d’entretenir un rapport avec soi-même face à des inconvénients et à des difficultés personnelles. Il n'est donc pas surprenant que l'auto-compasion soit associée à un meilleur fonctionnement psychologique et puisse protéger contre des psychopathologies. Malgré les preuves des bienfaits de l'auto-compasion, ses mécanismes sous-jacents ou causaux ne sont pas bien compris. Selon Gilbert (1989, 2000), l'auto-compasion est enracinée dans les mentalités sociales qui encouragent la recherche de soins pour soi et l’offre de soins pour autrui, qui ont d'abord évolué pour guider le comportement interpersonnel, mais ont maintenant été cooptées pour la relation avec soi. L’objectif de cette thèse est d’évaluer systématiquement la théorie de la mentalité sociale en utilisant une gamme de méthodes de recherche.

L'article 1 a examiné les effets uniques de la recherche de soins pour soi et de l’offre de soins pour autrui, ainsi que de leur combinaison, dans la prédiction de l'auto-compasion, à l'aide d'une étude transversale. Pour ce, les participants ont complété une batterie de mesures d'auto-évaluation. Des analyses factorielles exploratoires ont été menées pour dériver des facteurs représentants la recherche de soins pour soi et l’offre de soins pour autrui. Conformément à la théorie de la mentalité sociale, la combinaison d’un niveau élevé de recherche de soins pour soi et d’offres de soins pour autrui prédisait le plus haut niveau de compassion de soi. Un plus faible niveau d'auto-compasion a été prédit par la combinaison d'une faible recherche de soins pour soi et d’un niveau élevé d’offre de soins pour autrui, conformément au concept de prodigation compulsive de soins.

L'article 2 a examiné comment la recherche de soins pour soi et l’offre de soins pour autrui pouvaient prédire l’auto-compasion au niveau inter-individuel et intra-individuel, à l'aide
d'une méthodologie d'écriture quotidienne. Pendant sept jours, les participants ont complété un questionnaire quotidien mesurant leur niveau de soutien social reçu, de soutien social fourni, et d'auto-compasion. Au niveau inter-individuel, les personnes avec le plus haut taux d'auto-compasion étaient celles qui recevaient des niveaux de soutien élevés et qui fournissaient des niveaux élevés de soutien. Ce résultat est en accord avec la théorie de la mentalité sociale. De plus, conformément à l'effet de prodigation compulsive de soins constaté à l'article 1, les personnes ayant des faible taux d’auto-compasion étaient celles qui accordaient des niveaux élevés de soutien pour autrui mais recevaient de faibles niveaux de soutien eux-mêmes. Au niveau intra-individuel, les participants avaient des taux d’auto-compasion plus élevés les jours où ils recevaient plus de soutien que d'habitude et les jours où ils donnaient plus de soutien que d'habitude. Dans l'ensemble, les résultats fournissent un soutien à la théorie de la mentalité sociale en montrant que le niveau de recherche de soins pour soi et d’offre de soins pour autrui sur une base quotidienne, et en moyenne au fil du temps, peut prédire la capacité d'être auto-compéissant.

L'article 3 a examiné si l'auto-compasion pouvait être favorisée par l'activation des mentalités de recherche de soins pour soi et d’offre de soins pour autrui à l'aide d'une méthodologie expérimentale. Compte tenu des effets d’interaction constatés dans les articles 1 et 2, l'article 3 a examiné les différences individuelles des facteurs impliqués dans la recherche de soins pour soi et dans l’offre de soins pour autrui en tant que modérateurs potentiels. Le niveau de base de stress perçu a aussi été examiné en tant que modérateur supplémentaire, pour savoir si l'auto-compasion pouvait être promue chez les personnes vulnérables à la psychopathologie. Les participants ont été assignés aléatoirement parmi trois groupes : les participants devaient soit se rappeler des souvenirs d’une recherche de soins pour soi, se rappeler des souvenirs d’offre de
soins pour autrui, se rappeler des souvenirs d’une recherche de soins pour soi et de l’offre de soins pour autrui, se rappeler des souvenirs de moments amusants (groupe de contrôle actif), ou être membre du groupe de contrôle sans traitement. Les participants ont complété une tâche de rappel de mémoire deux fois par jour pendant quatre jours. Leurs niveaux d’auto-compasion ont été évalués avant et après l’intervention. Les résultats n’ont révélé aucun effet principal du groupe, mais ont suggéré des effets modérateurs de la recherche de soins pour soi et du stress. Dans le groupe d’offre de soins, les personnes qui recherchaient un haut niveau de soins ont augmenté leur propre auto-compasion, alors que les personnes ayant un faible taux de demande de soins ont diminué leur auto-compasion. Dans le groupe de recherche de soins pour soi, les personnes fortement stressées ont augmenté leur auto-compasion. Ces résultats sont généralement compatibles avec la théorie de la mentalité sociale, tout en démontrant les effets potentiellement néfastes d’offre compulsive de soins. Les résultats suggèrent également que la recherche de soins pour soi soit particulièrement bénéfique pour les individus souffrant de stress élevé et donc vulnérables à la psychopathologie.

Dans l’ensemble, les trois articles fournissent des preuves convergentes que l’auto-compasion repose sur la double activation des mentalités sociales de recherche et d’offre de soins.

Conformément à la théorie de la mentalité sociale, une forte auto-compasion était prédite par la combinaison d’une recherche de soins pour soi élevée et d’une offre de soin pour autrui élevée. Une découverte inattendue a suggéré des déficits d’auto-compasion prédits par la combinaison d’une faible recherche de soins pour soi et d’une offre de soin pour autrui élevée. Ces résultats contribuent à une meilleure compréhension des facteurs interpersonnels et des mécanismes sous-jacents qui favorisent ou empêchent l’auto-compasion. Ainsi, ces résultats peuvent informer les
efforts visant à améliorer les interventions existantes d'auto-compassion ou à concevoir de nouvelles interventions qui cultivent indirectement la compassion pour soi.
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I would like to express my gratitude towards many people who have guided, supported, and inspired me in the last 6 years of this PhD. The path has been enlightening and challenging, and also a lot of fun, in large part thanks to the important people who have walked with me along the way.

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Contribution of Authors

The present doctoral thesis is comprised of three manuscripts. Overall, I formulated the research questions and directed the program of research under the supervision of Dr. David Zuroff.

The first manuscript is published in *The Journal of Social Psychology* and was co-authored by myself and David Zuroff. I designed the study with input from David Zuroff and fellow lab members. I secured approval from the research ethics board to run the study. I collected the data with the assistance of undergraduate honours student Keven Joyal-Desmarais. Under the supervision of David Zuroff, I conducted the statistical analyses, interpreted the findings, and wrote the manuscript.

The second manuscript is published in the journal *Personality and Individual Differences* and was co-authored by myself, David Zuroff, Allison Kelly, and Michelle Leybman. Prior to my time in the lab, the study had been designed by previous graduate students Allison Kelly and Michelle Leybman. Data had been collected by Allison Kelly, Michelle Leybman, Clare Foa, and undergraduate students. I conceptualized new research questions and hypotheses to test in the existing data. I completed the statistical analyses and data interpretation with guidance from David Zuroff. I wrote the manuscript with editorial feedback from the co-authors.

The third manuscript has been accepted for publication in *The Journal of Positive Psychology* and it was co-authored by myself and David Zuroff. I designed the study with input from David Zuroff and fellow lab members. I secured approval from the research ethics board to run the study. I supervised the data collection, which was conducted by undergraduate honours student Lia Elbaz and undergraduate volunteer Uliana Bilash. I conducted the statistical analyses, interpreted the data, and wrote the manuscript with feedback from David Zuroff.
Statement of Original Contribution

The present thesis provides several contributions to our understanding of the underlying mechanisms of self-compassion. There has been an exponential growth in self-compassion research since Kristin Neff (2003a) initiated the first empirical studies of the construct. The bulk of the research has focused on elucidating the benefits of self-compassion in various life domains. However, there is limited understanding of the mechanisms that give rise to self-compassion. According Gilbert (1989, 2000), self-compassion relies on the activation of care-seeking and caregiving mentalities. The current thesis offers the first program of research that systematically tests social mentality theory by using a range of study design and analytic methods. Furthermore, the current thesis offers a unique integration of the two separate approaches to studying self-compassion (Neff and Gilbert).

Each article in this thesis provides novel contributions to the literature. Article 1 provides the first empirical support for social mentality theory. Whereas prior studies examined care-seeking and caregiving separately in predicting self-compassion, Article 1 uniquely examined their combined and interactive effects. Consistent with social mentality theory, the highest level of self-compassion was predicted by an interaction of high care-seeking and high caregiving. Findings also demonstrated deficits in self-compassion to be predicted by an interaction of low care-seeking and high caregiving, which contributes to the limited understanding of factors that impede self-compassion. Lastly, Article 1 offers a novel self-report method for reliably assessing the comprehensive nature of care-seeking and caregiving mentalities.

Prior research has mostly viewed self-compassion as a stable personality trait and has focused on examining differences across individuals. Article 2 used a daily diary method and multilevel modelling to elucidate both between-persons and within-person effects. Article 2
provides the first examination of how self-compassion, care-seeking, and caregiving mentalities naturally fluctuate within an individual over time. It contributes to the very limited research examining variability in self-compassion at the within-person level. This is an important contribution because self-compassion, like any personality construct, possesses both trait- and state-like properties. At the within-person level, Article 2 demonstrated that care-seeking and caregiving mentalities are changing, dynamic states that meaningfully predict fluctuations in self-compassion. At the between-persons level, Article 2 replicated the findings from Article 1, thereby adding to the limited empirical support for social mentality theory.

Past intervention studies have focused on how self-compassion can be cultivated through direct training and explicit means. Article 3 contributes to the limited evidence that self-compassion can be promoted indirectly or through contextual factors. This informs novel approaches for working with individuals who tend to struggle with or pose resistance to direct self-compassion interventions. Furthermore, to my knowledge, Article 3 is the first demonstration of a negative or iatrogenic effect of an intervention designed to increase self-compassion. This highlights the importance of considering individual difference variables that are predictive of intervention outcomes. Lastly, by using an experimental method, Article 3 provides the first evidence of care-seeking and caregiving mentalities as causal mechanisms of self-compassion.
General Introduction

“If you want others to be happy, practice compassion. If you want to be happy, practice compassion.”
- His Holiness the Dalai Lama

“Compassion isn’t some kind of self-improvement project or ideal that we’re trying to live up to. Having compassion starts and ends with having compassion for all those unwanted parts of ourselves, all those imperfections that we don’t even want to look at.”
- Pema Chodron

“Be softer with you. You are a breathing thing. A memory to someone. A home to a life.”
- Nayyirah Waheed

Failures and personal shortcomings are an inevitable part of life. We have all had the experience of failing to reach an important goal or having a cherished relationship come to an end. The way we treat ourselves in these instances, for example with kindness or with criticism, is a central component of our experience. The concept of self-compassion has been part of Buddhist philosophy for generations. Within the last two decades, psychologists have begun the empirical study of self-compassion (e.g., Neff, 2003a). Although the many benefits of self-compassion have been demonstrated, its underlying mechanisms are not well understood. Self-compassion is theorized to be rooted in care-seeking and caregiving social mentalities (Gilbert, 1989, 2000) which originally evolved to guide interpersonal behaviour, but have now been co-opted for intrapersonal relating. In the present thesis, I investigate the relationships between care-seeking, caregiving, and self-compassion and whether self-compassion may be enhanced via these proposed interpersonal mechanisms. First, I review the theoretical, empirical, and clinical literatures that inspired my program of research. Then, I present findings from three manuscripts.
using cross-sectional, daily diary, and experimental methodologies. I conclude by discussing the theoretical and empirical contributions of my research, and propose clinical applications and avenues for future research.

**Definition of Compassion**

To understand what the term self-compassion means, it is helpful to consider the concept of compassion more generally. For a moment, imagine that you are walking on a cold winter day and you see a homeless woman huddled under a sleeping bag. You do not know this individual and you do not know her story, yet you recognize and understand her suffering and you are emotionally moved by it. You naturally experience feelings of kindness and care and a desire for her to not have to endure the misery of her present condition. Taken together, this is the experience of compassion.

Compassion can be defined in many ways. In the Buddhist tradition, the Dalai Lama defines compassion as openness to the suffering of others with a commitment to relieve it. From an evolutionary standpoint, compassion has also been conceptualized as a set of abilities linked to evolved motivational, emotional, and cognitive-behavioural competencies to be caring of others and enhance their chances for survival (Gilbert, 2005). Moreover, compassion has been characterized as a brief affective state with distinct appraisal processes, display behaviours, and physiological responses (Goetz, Keltner, & Simon-Thomas, 2010), as well as a stable dispositional attitude towards others (Sprecher & Fehr, 2005).

In the same way that we can have compassion for others, we can also have compassion for ourselves. Self-compassion (Neff, 2003a) and self-reassurance (Gilbert, Clarke, Hempel, Miles, & Irons, 2004) are ways of relating to oneself with care and concern in the context of personal inadequacies, failures, and difficult life struggles. The terms self-compassion and self-
reassurance will be used interchangeably in the present thesis. The growing body of literature on self-compassion initially focused on demonstrating the positive relationship between self-compassion and indices of well-being. This has spurred efforts to examine whether and how self-compassion can be increased. Clinical psychologists have also become interested in developing interventions to increase self-compassion with the goal of reducing clinical symptoms and distress. Self-compassion has been studied from the two main perspectives of personality and social psychology (Dr. Kristin Neff), and biopsychosocial and evolutionary psychology (Dr. Paul Gilbert).

**Neff’s Conceptualization of Self-Compassion**

Neff’s (2003b, 2016) conceptualization of self-compassion is inspired by Buddhist philosophy and personality and social psychology. Neff has defined self-compassion as a construct comprising three components with each component involving a positive (compassionate) and negative (uncompassionate) aspect. The first component is self-kindness versus self-judgment, which refers to the ability to be kind, caring, and encouraging to the self rather than harsh and critical. The second component is common humanity versus isolation, which refers to the understanding that all humans are imperfect and make mistakes instead of feeling like the only one who struggles with personal shortcomings. The third component is mindfulness versus over-identification, which refers to an awareness of the present moment in an accepting and balanced way rather than becoming consumed by the negative aspects of oneself or one’s painful experience. The various components encompass the ways that individuals emotionally respond (with kindness or judgment), cognitively understand (as part of a shared human experience or as isolating), and pay attention (in a mindful or over-identified manner) to experiences of personal suffering. Neff (2003b, 2016) has suggested that these components are
conceptually distinct but combine and mutually interact to create a self-compassionate attitude. As such, self-compassion represents the relative balance of these six compassionate and uncompassionate ways of responding (Neff, 2016).

The Self-Compassion Scale (SCS; Neff, 2003a) was developed to assess trait levels of self-compassion and is the most widely used measure of self-compassion to date. Many studies have demonstrated the construct validity of the SCS (for a summary, see Neff, Whittaker, & Karl, 2017). However, some researchers (e.g., López et al., 2015; Muris, 2015) have argued against using the total SCS score as an overall indicator of self-compassion given findings suggesting a two-factor model of positive and negative components. In response, Neff et al. (2017) examined the factor structure of the SCS in four distinct samples (i.e., college undergraduates, community adults, individuals practicing Buddhist meditation, and individuals with a history of recurrent depression). A bifactor model suggested that using the total SCS score is justified in measuring the general construct of self-compassion, and a six-factor correlated model suggested that the six components of self-compassion can be examined separately. Overall, findings support the continued use of the total SCS score and offer flexibility to examine the separate components of self-compassion if needed.

Neff’s interest in the construct arose in part from the idea that self-compassion may be a more adaptive form of self-regard without the downsides of pursuing self-esteem. Self-esteem has been broadly viewed as a global evaluation of the self; in other words, how much one likes or values themselves (Rosenberg, 1965). Self-esteem is often based on how one performs or compares to external and internal standards; thus it tends to be enhanced by attaining achievements and diminished by failure (Kernis, 2003). Decades of research have converged on the notion that global self-esteem is an integral part of positive psychological functioning
(Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004). However, recent research has highlighted that people sometimes engage in maladaptive behaviours in order to gain or preserve self-worth (for a review, see Crocker & Park, 2004). Threats to self-esteem can be met with aggression towards those who threaten the ego (Baumeister, Smart & Boden, 1996; Bushman & Baumeister, 1998), negative prejudicial evaluations of outgroup members (Fein & Spencer, 1997), and inflated views of the self and a tendency to blame personal failings on external causes (Sedikides, 1993). Although self-compassion and self-esteem have been found to be strongly correlated between $r = .56$ (Leary, Tate, Adams, Allen, & Hancock, 2007) and $r = .68$ (Neff & Vonk, 2009), there are important features that distinguish the two constructs. Inherent in the definition of self-esteem is the comparison of one’s worth to some standard, while self-compassion is not dependent on comparison and is instead focused on the shared human experience. Furthermore, self-compassion has been associated with more adaptive responses to negative self-related events, such as a greater willingness to accept responsibility for failure than self-esteem (Leary et al., 2007). Overall, self-compassion entails kindness and understanding when faced with personal setbacks and disappointments and does not require one to feel superior compared to others.

**Adaptive Outcomes Related to Self-Compassion**

Not surprisingly, the current body of literature has demonstrated the benefits of being self-compassionate in a variety of domains. A recent meta-analysis (Zessin, Dickhäuser, & Garbade, 2015) of 79 samples with an overall sample size of 16,416 demonstrated a moderate relationship ($r = .47$) between self-compassion and well-being. Research has shown self-compassion to be related to various markers of positive psychological functioning. For example, self-compassion was found to be correlated with an aggregate index of well-being that included
measures of self-mastery, purpose in life, low perceived stress, low negative affect, and high life satisfaction (Neely, Schallert, Mohammed, Roberts, & Chen, 2009). Self-compassion predicted variation in well-being over and beyond variation predicted by stress and availability of social support, which are factors that are strongly predictive of well-being. In a separate study, self-compassion predicted significant variance in positive psychological functioning beyond that attributable to the five factor model of personality (Neff, Rude, & Kirkpatrick, 2007). Self-compassion was found to be positively correlated with positive affect and negatively correlated with negative affect (Neff, Kirkpatrick, & Rude, 2007), and remained correlated with positive affect when self-esteem was controlled (Neff & Vonk, 2009). Self-compassionate individuals report less negative feelings and self-conscious emotions in recalling self-relevant negative events (Leary et al., 2007). Similarly, individuals with high self-compassion experience more positive emotions and less negative emotions after performing an embarrassing task (Leary et al., 2007).

Research has also examined the links between self-compassion and adaptive cognitive and motivational processes. Rumination and thought suppression are two cognitive patterns that have been found to lead to maladaptive outcomes. Rumination involves repetitively focusing on one’s distress (Nolen-Hoeksema & Morrow, 1991), while thought suppression involves attempts to avoid or repress unwanted thoughts (Wegner & Zanakos, 1994). As expected given that self-compassion involves a balanced approach to one’s emotions, self-compassion has been found to be negatively correlated with rumination (Neff, 2003a; Neff & Vonk, 2009; Raes, 2010). Additionally, lower brooding rumination partially mediated the relationship between self-compassion and depression (Raes, 2010) and increases in self-compassion over a 1-month period predicted decreased rumination (Neff et al., 2007a). Similarly, self-compassion was found to be
negatively correlated with thought suppression (Neff, 2003a), with increases in self-compassion predicting decreased thought suppression one month later (Neff et al., 2007a). When faced with a perceived academic failure, self-compassionate students tend to react with less avoidance-oriented coping strategies, such as denial and mental disengagement, and more adaptive coping strategies, such as acceptance and positive reinterpretation of the situation (Neff, Hsieh, & Dejittirat, 2005).

In addition to promoting adaptive cognitive processes, self-compassion also fosters beneficial forms of motivation. Self-determination theory posits that authentic forms of well-being result from the satisfaction of intrinsic psychological needs for relatedness, competence, and autonomy (Ryan & Deci, 2000). Self-compassionate individuals report greater fulfillment of these basic needs (Neff, 2003a), suggesting they are more likely to have positive psychological functioning compared to individuals who are low on self-compassion. In the literature on academic learning and motivation, two distinct types of achievement goals have been proposed – mastery goals and performance goals. Individuals with a mastery orientation are motivated by an intrinsic desire to learn and develop skills, while those with a performance orientation are motivated to enhance their sense of self-worth and avoid failure (Dweck, 1986). Self-compassionate individuals were found to have greater intrinsic motivation to learn, more mastery goals, and fewer performance goals. Furthermore, results suggest that self-compassion is associated with mastery goals through greater perceived competence and decreased fear of failure (Neff et al., 2005). The link between self-compassion and adaptive forms of motivation was similarly demonstrated in the domain of exercise and physical fitness (Magnus, Kowalski, & McHugh, 2010). Among female exercisers, self-compassion was positively associated with greater intrinsic motivation to exercise and negatively associated with two types of extrinsic
motivation. Self-compassionate individuals were less likely to exercise due to external motivation (e.g., securing favourable judgment from others) and introjected motivation (e.g., avoiding feelings of guilt). Additionally, self-compassionate individuals were less likely to have goals related to elevating one’s worth in comparison to others and to exercise in compulsive ways that are potentially harmful.

In addition to examining self-compassion and positive psychological functioning, there is a growing interest in examining self-compassion as a predictor of mental health outcomes. In a meta-analysis (MacBeth & Gumley, 2012) of 20 samples with overall sample size of 4,007 participants, a moderate negative relationship ($r = -0.54$) between self-compassion and psychopathology was found. Self-compassion is negatively correlated with concurrent anxiety and depression symptoms in student samples (Neff, 2003a; Neff et al., 2007a; Raes, 2010) and clinical community samples (Costa & Pinto-Gouveia, 2011; van Dam, Sheppard, Forsyth, & Earleywine; 2011). Additionally, two separate studies showed self-compassion prospectively predicted changes in depressive symptoms over time, such that higher levels of self-compassion at baseline were associated with greater reductions in symptoms for university students five months later (Raes, 2011) and for children and adolescents three months later (Stolow, Zuroff, Young, Karlin, & Abela, 2016).

Training in Self-Compassion

Most empirical studies of self-compassion are correlation in design. However, as research on self-compassion and its correlates continues to develop, the question of whether and how self-compassion can be increased is gaining more attention. Interventions studied to date have varied from brief experimental inductions to longer-term exercises resulting in a variety of positive outcomes.
In a lab-based experimental induction by Leary et al. (2007), participants recalled a previous failure, rejection, or loss that elicited negative self-evaluations and were then randomly assigned to one of four conditions: a) self-compassionate writing, b) self-esteem writing, c) emotional writing, and d) control (no writing exercise). The self-compassion writing exercises required participants to write about their recalled negative event in the context of the three elements of self-compassion (i.e., self-kindness, common humanity, and mindfulness). Compared to the other conditions, participants who wrote self-compassionately reported less negative affect while also being more likely to acknowledge their responsibility in making mistakes. These findings suggest that a self-compassion induction can promote adaptive forms of emotional and cognitive responses in the moment.

Shapira and Mongrain (2010) examined the effects of a similar self-compassionate writing exercise, but practiced on a daily basis over the course of a week. Community participants were recruited across Canada as part of a large online self-help intervention study based on positive psychology principles. Every day for a week, participants were asked to think about a negative event that day that led to them feeling upset. Then, they were asked to write a short letter to themselves using a first-person perspective that involved the qualities of kindness and understanding towards the self. Compared to the control condition of writing about early memories, participants in the self-compassion intervention were less depressed three months later and were happier six months later. These findings suggest that a one-week self-compassionate writing exercise can lead to emotional well-being effects sustained over time.

Given evidence demonstrating that self-compassion can fluctuate within individuals, Neff and her colleagues (2007) tracked changes in self-compassion in therapy clients for the duration of a month. Therapists in the study used a Gestalt two-chair exercise designed to help clients
extend empathy to the self and to challenge self-critical beliefs by acting out the two parts of
themselves; that is, a judgmental self and an experiencing self (Greenberg, 2002). Clients who
experienced an increase in self-compassion also experienced decreased self-criticism,
depression, rumination, thought suppression, and anxiety over the one-month period. These
results add to the emerging evidence that self-compassion can be increased through clinical
intervention, which in turn, promotes psychological health.

Recently, Neff and Germer (2013) created a comprehensive intervention program aimed
at cultivating self-compassion. The Mindful Self-Compassion program is an 8-week program in
which formal (e.g., sitting meditation) and informal self-compassion practices (e.g., letter
writing) are taught and practiced to help clients deal with difficult emotions and personal
failures. A randomized controlled study (Neff & Germer, 2013) showed that participation in the
program increased self-compassion, mindfulness, compassion for others, and life satisfaction, as
well as decreased anxiety, depression, and stress compared to a waitlist control group.
Furthermore, these benefits were maintained a year after completion of the program. The degree
to which participants engaged in formal meditation and informal self-compassion practices
predicted increases in self-compassion, suggesting the dose dependent nature of learning self-
compassion. It is important to note that participants were mostly highly educated, middle-aged
women who had prior meditation experience; thus, it is unclear whether the program would be
beneficial for clinical populations.

**Gilbert’s Conceptualization of Self-Compassion**

Although Neff’s work prompted a rapid grown in research on self-compassion, the
theoretical underpinnings of self-compassion have not been well articulated. Inspired by
biopsychosocial and evolutionary principles, Paul Gilbert has proposed a theoretically rich
conceptualization of compassion, and empirical investigations of his theories are burgeoning. Gilbert’s work has focused on the broader construct of compassion and includes the three directions in which compassion can flow: 1) having compassion towards others, 2) receiving compassion from others, and 3) having compassion for oneself, which is most relevant to the present thesis. According to Gilbert (2005), compassion is a set of abilities including the capacity to recognize another’s distress, the desire to care for their well-being, the ability to sympathize and be emotionally moved, an ability to tolerate distress, the capacity for empathic understanding of the distress and of necessary actions to help, and non-judgment of the other’s situation. Based on affective neuroscience and social mentality theory, Gilbert (1989, 2000) proposed that humans have evolved innate capacities for care-oriented behaviours that can be used to cultivate compassionate attention, feeling, and action.

The Construct of Self-Reassurance

Gilbert’s interest in compassion stemmed from clinical observations suggesting that clients with excessive self-criticism were at higher risk for psychopathology. Self-critical individuals appeared to lack a sense of inner warmth and the capacity for self-soothing. Thus, Gilbert’s earlier work was focused on distinguishing types and functions of self-criticism and factors that promote a more adaptive, self-reassuring attitude. Studies to date have used The Forms of Self-Criticism/Reassurance Scale (FSCRS; Gilbert et al., 2004) comprising two subscales that measure two forms of self-criticism (Inadequate Self which focuses on personal inadequacies, and Hated Self which focuses on the desire to hurt and derogate oneself) and one subscale that measures the ability to be kind, caring, and supportive to oneself (Reassured Self or self-reassurance). Recently, Gilbert et al. (2017) developed The Compassionate Engagement and Actions scale which assess the three directions in which compassion can flow based on Gilbert’s
multi-dimensional definition of compassion. The studies presented in this thesis were conducted prior to the development of this scale and therefore used the self-reassurance subscale of the FSCRS.

Self-reassurance and self-compassion are both ways of relating to oneself with care and concern in the face of personal failure and difficult life struggles. The construct of self-reassurance is more narrowly defined than self-compassion and resembles the self-kindness facet of self-compassion. Although the two constructs are not identical, self-reassurance as measured by the FSCRS (Gilbert et al., 2004) and self-compassion as measured by the SCS (Neff, 2003a) are strongly positively correlated, \( r = .71 \) (Hermanto & Zuroff, 2016). In an effort to integrate the two separate research literatures and for the purpose of simplicity, the terms self-compassion and self-reassurance are used interchangeably in the present thesis.

Emerging evidence suggests that self-reassurance, like self-compassion, confers well-being benefits and protects against psychopathology. In cross-sectional studies, self-reassurance is related to greater positive affect and less stress (Gilbert et al., 2008) and lower levels of depressive and anxious symptomatology (Gilbert et al., 2004; Gilbert, Baldwin, Irons, Baccus, & Palmer, 2006).

**Compassion Focused Therapy**

Gilbert and colleagues have developed Compassion Focused Therapy (CFT; Gilbert, 2009), which is an approach that applies biopsychosocial and evolutionary models of compassion to the process of psychotherapy. CFT was originally developed to help individuals whose mental health concerns were characterized by experiences of high shame and self-criticism with the aim of facilitating inner warmth and self-soothing. The central therapeutic technique of CFT is Compassionate Mind Training (CMT), which refers to specific activities
enacted by the therapist and client in order to develop compassionate attributes and skills. These practices are multi-modal and incorporate aspects of other psychotherapies, such as targeting thoughts, feelings, behaviours, and body sensations. Exercises involve compassionate imagery and meditation, compassionate thinking about the self and others, responding to self-criticism with self-compassion, and practicing compassionate behaviour such as self-compassion letter writing. The CFT client is encouraged to pay attention to, understand, and experience compassion from others, for others, and for the self.

In a pilot study of CFT (Gilbert & Procter, 2006), patients with complex mental health issues in a day treatment program were led through weekly two-hour CMT sessions for 12 weeks. Patients learned how to contextualize their self-criticism as a safety strategy for avoiding internal and external threats. Patients learned about the qualities of compassion and explored fears related to giving and receiving compassion as well as fears of being self-compassionate. Using imagery exercises, patients were invited to create an ideal compassionate figure embodying qualities of caring, wisdom, strength, and non-judgmental acceptance. Comparing pre- and post-test scores showed increases in self-reassurance and reductions in depression, anxiety, self-criticism, shame, feelings of inferiority, and submissive behaviours. Thus, findings from this pilot study suggest the utility of using a CFT approach in clinical settings for clinical populations.

Kelly, Zuroff, and Shapira (2009) extended investigations of CFT approaches to the self-help domain. Two self-help interventions were designed and tested to reduce depressive symptoms in a community sample of distressed acne sufferers. The aim of the first intervention was to develop a compassionate and reassuring form of self-relating while the aim of the second intervention was to develop a strong and resilient form of self-relating in response to self-
criticism. Participants engaged in daily imagery-based self-talk exercises inspired by Gilbert’s CMT for two weeks. The self-soothing intervention decreased shame and skin complaints. The attack-resisting intervention decreased depressive symptoms, shame, and skin complaints and was especially effective for self-critical individuals.

Recently, a systematic review of fourteen CFT studies was conducted (Leaviss & Uttley, 2015). The study designs included randomized controlled trials (3), non-randomized controlled trials (2), uncontrolled or observational studies (8), and a case study. Both clinical and non-clinical populations with diverse presenting problems were included, as well as different types of intervention approaches, such as therapist-led, group-based, and self-help. The systematic review suggested that CFT is more effective than no treatment and as effective as treatment as usual. In particular, CFT showed the most benefit for individuals with high self-criticism. However, there is a lack of large-scale high-quality trials which precludes conclusions about the effectiveness of CFT compared to current evidence-based treatments such as cognitive behavioural therapy (CBT). Nonetheless, findings highlight the growing movement towards integrating the construct of compassion into the delivery of effective psychotherapy.

Tripartite Model of Affect Regulation

The development of CFT was guided by a theoretical analysis of how the experience of compassion from others, for others, and for oneself, might facilitate adaptive emotion regulation. There are many ways to conceptualize and describe emotion regulation systems (Panksepp, 1998). Incorporating the work of LeDoux (1998) on threat processing and Depue and Morrone-Strupinsky (2005) on two types of positive affect systems, Gilbert proposed a tripartite model of affect regulation (2005). His model proposes that three interacting systems have evolved to respond to signals of danger, rewards/resources, and affiliation, which respectively trigger
feeling threatened, excited, and soothed. First, the threat system (LeDoux, 1998) functions to detect danger and to respond in self-protective ways to minimize risk of injury or death. The threat system leads to negative affects such as anxiety and anger, as well as to a heightened awareness of surroundings and fight, flight, or freeze behaviours. The over-activation of the threat system is viewed as underlying various forms of psychopathology, in which individuals engage in maladaptive self-protective strategies (e.g., avoidance behaviours, submission to others, persecutory bias) in the face of perceived threat (Gilbert, 2009). Second, the incentive system (Depue & Morrone-Strupinsky, 2005) functions to seek out and acquire important resources (e.g., food, money, sex). It leads to energizing positive affects, such as excitement and pleasure, when in pursuit of or acquiring desired rewards or success. Psychopathology can involve an interaction of both over-activated incentive and threat systems, in which individuals excessively strive to acquire material possessions and status in order to avoid threats of inferiority and rejection (Gilbert, 2009). Lastly, the soothing system (Depue & Morrone-Strupinsky, 2005) functions to regulate experiences of affiliation with others. In response to cues of warmth and care from others (or from oneself as in the case of self-compassion), the soothing system gives rise to low-activation positive affect, such as feelings of safeness and contentment. The activation of the soothing system is thought to down-regulate the threat system, leading to increased well-being. The overall aim of CFT is to stimulate feelings of soothing and safeness in order to address the imbalance among the three affect regulation systems involved in psychopathology (Gilbert, 2009).

Social Mentality Theory

According to Gilbert’s (1989, 2000) social mentality theory, intrapersonal relating such as self-compassion arises from the activation of systems that were originally evolved for relating...
with others. Social mentalities are internal systems that “generate patterns of cognition, affect and behaviour … that allow for the enactment of social roles” (Gilbert, 2000, p. 120) designed to solve challenges essential for survival, such as mating with sexual partners, competing for valued resources, cooperation and alliance formation, and care-seeking and caregiving (Gilbert 2000, 2005). A social mentality orients a person to create certain roles with others (e.g., seeking affiliation with a friend versus seeking dominance of a rival) and guides interpretation of the roles others are enacting (e.g., seeing another as acting in a friendly versus competitive way towards the self).

Unlike other mammals, humans have evolved higher-order meta-cognitive capacities such as self-reflection and self-awareness, wherein the self can be taken as object and related to intrapersonally. For example, if we have just lost an important relationship, we will typically experience feelings of sadness. We can also judge and evaluate our experience of sadness by either responding with kindness and reassurance (e.g., “It’s so hard to lose someone you love. It’s perfectly okay to be sad.”) or with harsh criticism (e.g., “You are pathetic. Get over it.”). Thus, higher-order cognitive capacities allow for intrapersonal or “self-to-self” relating in the absence of external others. Furthermore, it is theorized that internally generated stimuli, such as thoughts, imagery, and inner self-talk, activate the same affect regulation systems that respond to stimuli in the external environment. Hence, engaging in self-compassion is thought to activate the soothing system in the same way as receiving compassion from another person. Emerging evidence shows similar neurophysiological effects in response to internal and external stimuli. For example, Longe et al. (2010) found that being self-reassuring stimulated the left temporal lobe and insula, which are areas activated in expressions of compassion and empathy for others. Conversely, being self-critical activated the lateral prefrontal cortex and dorsal anterior
cingulate, areas which have been associated with threat processing and behaviour inhibition. These findings are consistent with Gilbert’s theory (2000) suggesting that intrapersonal relating activates social mentalities that underlie interpersonal relating.

While there are a variety of social mentalities, self-compassion is thought to specifically recruit the care-seeking and caregiving mentalities (Gilbert, 2000, 2005). Capacities for care-seeking and caregiving have generally been examined within the context of attachment theory (Bowlby 1969/1982) in which humans are theorized to possess the innate behavioural systems of attachment and caregiving. According to Bowlby (1969/1982), the function of the attachment system is to protect individuals from danger by ensuring that they maintain proximity to caring and supportive others, and it includes competencies for expressing distress and being responsive to others’ signals of care. Conversely, the function of the caregiving system is to provide protection and support to others in need, and it involves competencies for assessing the needs of the other, empathic understanding, and being responsive through caring behaviours. Gilbert’s (2000, 2005) concepts of care-seeking and caregiving social mentalities map onto Bowlby’s (1969/1982) concepts of the attachment and caregiving systems respectively. According to Gilbert (2005), in the same way that the care-seeking and caregiving mentalities are activated when relating to others (e.g., crying child and comforting mother), they can also be activated when relating within the self. Thus, self-compassion is viewed as a form of self-to-self relating in which the care-seeking mentality signals distress and need for care, and the caregiving mentality responds with compassionate thought and emotion directed inward (Gilbert, 2000, 2005).

Prior to the program of research presented in this thesis, Gilbert’s social mentality theory of self-compassion had not been empirically tested in a systematic way. There were no studies that examined the combined or interactive effects of care-seeking and caregiving on self-
compassion. Rather, related research on self-compassion and care-seeking and caregiving constructs provided preliminary evidence for social mentality theory.

The Link Between Self-Compassion and Caregiving

A range of studies have documented the positive association between self-compassion and caregiving. Neff and Pommier (2012) examined this link in college students, community adults, and individuals practicing Buddhist meditation. Self-compassion was found to be positively related to compassion for others, empathic concern, and altruism among the community adults and the Buddhist meditators, but not in the college students. Across all three samples, however, self-compassionate people were more likely to forgive others and had enhanced perspective-taking skills. Thus, self-compassion was associated with care-oriented perspectives and behaviours towards others, although this link differed according to age and life experiences.

Further, Neff and Beretvas (2012) examined how compassion for self and others are related within the context of romantic relationships. Couples who had been in a committed relationship for at least a year were recruited, and both partners in each dyad completed measures about their own attitudes and behaviours, as well as perceptions of their partner. Self-reported levels of self-compassion were associated with partner-reported levels of caregiving behaviors. Thus, to the extent that individuals were kind and caring toward themselves, their romantic partners also described them as more warm, affectionate, and considerate.

As part of a larger study examining relationship goals and social support, Crocker and Canevello (2008) surveyed undergraduate roommates weekly over a period of ten weeks. Two types of relationship goals were examined, including compassionate goals and self-image goals. Compassionate goals involve a motivation toward supporting and benefitting others, while self-
image goals involve a motivation toward maintaining a positive self-image to benefit the self. Results showed that average compassionate goals over the study period predicted self-compassion assessed at post-test. In other words, having compassionate goals for one’s roommate was associated with higher compassion for oneself.

Using fMRI methods, Longe and her colleagues (2010) examined the neurophysiological correlates of self-reassurance and self-criticism. Participants were visually presented statements describing two types of scenarios and were instructed to either imagine themselves being self-reassuring or self-critical in response to that situation. The first type of scenario involved a personal setback or failure intended to elicit negative emotion (e.g., “A third job rejection letter in a row arrives in the post”), while the second type of scenario involved a matched neutral event (e.g., “The second free local newspaper in a row arrives in the post”). Engaging in self-reassurance was associated with left temporal pole and insula activation. A previous neuroimaging study comparing novice and expert meditators (Lutz, Brefczynski-Lewis, Johnstone, & Davidson, 2008) showed that left insula activation was associated with generating a state of compassion for others. Thus, findings suggest that caring for the self and caring for others involve the same neurological processes.

The link between self-compassion and caregiving constructs has also been demonstrated in lab-based experiments. Breines and Chen (2013) conducted a series of four experiments that examined whether activating support-giving schemas can momentarily influence self-compassion. Across the four studies, the experimental manipulation and assessment of state self-compassion was varied. In the first two studies, participants were asked to recall memories of giving support (experimental condition) or having fun with a friend (control condition) after either recalling a personal negative event (Study 1) or failing a lab-based test (Study 2), and were
then assessed on self-reported state self-compassion. In the other two studies, participants read about another participant going through either a negative personal event or a neutral event, and were then asked to write supportive statements (experimental condition) or to not write anything at all (control condition). State self-compassion was assessed using an open-ended self-compassion writing exercise (Study 3) or a self-report measure (Study 4). Overall, results across the four studies showed that recalling memories of giving support as well as actually giving support increased state self-compassion.

Taken together, results from cross-sectional, neuroimaging, and experimental studies suggest that care-giving towards others is positively related to self-compassion and self-reassurance. These findings provide preliminary support for Gilbert’s social mentality theory, which proposes the activation of the caregiving mentality as underlying the capacity to be compassionate to oneself.

*The Link Between Self-Compassion and Care-Seeking*

There has been little research examining the link between self-compassion and care-seeking constructs. Several studies of adult attachment styles provide some indirect evidence. Four different types of adult attachment styles have been identified by Bartholomew and Horowitz (1991). First, secure attachment involves ease and comfort with intimacy, which suggests the willingness and ability to effectively care-seek with others. Second, preoccupied attachment is characterized by jealousy and clinginess and is likely to involve maladaptive forms of care-seeking, such as excessive reassurance-seeking. Third, fearful attachment involves a desire for intimacy combined with fears of rejection and hurt, suggesting that these individuals may suppress care-seeking behaviours. Lastly, dismissive attachment is exemplified by the
devaluation of closeness in relationships and a focus on inflating self-worth, suggesting a restricted range of care-seeking with others.

Neff and McGehee (2010) surveyed adolescents and young adults to investigate the relationship between self-compassion and attachment. Similarly, Irons and colleagues (2006) examined the relationship between self-reassurance and attachment in two samples of undergraduate students. Findings from both studies found that self-compassionate and self-reassuring individuals were more securely attached and less fearful and preoccupied in attachment. Thus, findings indirectly suggest that being compassionate and reassuring to oneself is related to being more comfortable and effective at care-seeking with others.

There are two studies that provide null findings regarding the association between self-compassion and care-seeking constructs. Neff, Hsieh, and Dejitterat (2005) examined the relationship between self-compassion and coping strategies following a perceived academic failure. Results showed self-compassion was unrelated to seeking instrumental support or emotional support. In a study by Leary et al. (2007), participants were asked to report on the worst thing that happened to them and how they responded to the event, every five days for the duration of the 20-day study period. Findings showed that self-compassionate people were not more likely to seek out the company of others following a negative event. These findings suggest that self-compassion is not related to seeking care from others, which is inconsistent with Gilbert’s social mentality theory. However, the present evidence regarding the association between self-compassion and care-seeking is undoubtedly limited.

Developmental Origins of Self-Compassion

Approaches to developmental psychology from various perspectives, including attachment theory (Bowlby, 1969/1982), interpersonal theories (e.g., Baldwin, 1992), and
psychoanalytic traditions (e.g., Blatt, 1974; Kernberg, 1976) converge on the view that early experiences with caregivers are important in influencing working models of self and others. Individuals raised by caring and supportive caregivers and who have experienced validating and secure relationships are theorized to be more able to relate to themselves in a compassionate and reassuring way. Conversely, individuals who have experienced threatening and insecure early relationships with others are thought to develop deficits in self-compassion or increased self-criticism.

There is a large body of literature demonstrating the influence of early relationships on the development of personality factors (Kopala-Sibley & Zuroff, 2014). Research on the origins of self-compassion and self-criticism, specifically, are consistent with this view. Neff and McGehee (2010) found that adolescents’ recollections of greater maternal support were associated with higher levels of self-compassion, while greater maternal criticism was linked with lower levels of self-compassion. Furthermore, self-compassion was predicted by the degree of family functioning, such that individuals from close, conflict-free families were more self-compassionate. Pepping, Davis, O’Donovan, and Pal (2015) demonstrated that recalled poor parenting during childhood (i.e., low warmth, high over-protection, and high rejection) was associated with lower self-compassion, and this relationship was mediated by heightened attachment anxiety. A longitudinal prospective study found that five-year old children whose mothers reported restrictive and rejecting parenting styles were more likely to be self-critical at the age of 12 (Koestner, Zuroff, & Powers, 1991). Indeed, self-critical parents rated their caregiving behaviours to be less loving and more controlling, which predicted self-criticism in their daughters (Amitay, Mongrain, & Fazaa, 2008). Lastly, retrospective recall of parents as rejecting and overprotecting is related to feelings of inadequacy and self-hate, while parental
warmth is associated with the ability to be self-reassuring (Irons et al., 2006). Thus, findings overall suggest that people relate to themselves with compassion or criticism to the degree that others have related to them in that manner.

**Gaps in Previous Research**

While existing developmental theories (Baldwin, 1992; Blatt, 1974; Bowlby, 1969/1982; Kernberg, 1976) focus on how others’ behaviours towards the self influence self-to-self relating, Gilbert’s (1989, 2000) social mentality theory suggests that individuals relate to themselves through systems evolved for relating to others. However, there is a lack of research examining the social mentality theory of self-compassion. No previous studies have examined the combined and interactive effects of care-seeking and caregiving proposed to underlie self-compassion. Additionally, a review of the literature revealed the absence of self-report measures that assess the comprehensive nature of care-seeking and caregiving social mentalities, which involve related motivations, cognitions, and behaviours.

With the exception of the experimental study by Breines and Chen (2013), previous studies examining the relationship between self-compassion and care-seeking and caregiving have relied on cross-sectional design and assessment at a single time point. Correlational findings do not permit conclusions about causality. Also, cross-sectional studies allow for comparisons between people but do not permit the examination of changes within an individual. Such designs are limited in their capacity to test the underlying theory because social mentalities are not static properties of individuals, but rather dynamic, changing states.

Lastly, there is a lack of experimental studies that examine the contextual factors that promote self-compassion. Past studies have largely examined how self-compassion can be promoted with explicit and direct instruction, such as through self-compassionate writing (Leary
et al., 2007; Shapira & Mongrain, 2010) or through comprehensive self-compassion intervention programs (Gilbert & Procter, 2006; Neff & Germer, 2013). Emerging evidence suggests that certain individuals pose difficulty engaging in direct self-compassion interventions. For example, Robinson et al. (2016) showed that individuals low in trait self-compassion adopted a negative view of the self after undergoing a self-compassion induction. These individuals characterized themselves as self-indulgent and lacking motivation and conscientiousness. Also, in a group therapy with chronic mental health patients, Gilbert and Procter (2006) observed that self-compassion work was met with fears and distress related to feelings of not deserving kindness. Thus, it would be clinically important to examine whether self-compassion can be cultivated through indirect means, such as the activation of care-seeking and caregiving mentalities.

The Present Thesis

My overall objective is to test Gilbert’s social mentality theory and to examine how and for whom self-compassion may be promoted through the activation of care-seeking and caregiving mentalities. The three articles in this thesis utilize a range of research designs and data analytic strategies that build upon the results of each of the previous articles, as well as the existing literature.

In Article 1, I sought to provide a preliminary test of social mentality theory using a cross-sectional design. I also aimed to determine how to comprehensively assess care-seeking and caregiving social mentalities given the lack of appropriate measures in the literature. In Article 1, participants completed measures of self-compassion, self-reassurance, and care-seeking and caregiving related constructs. Exploratory factor analyses were conducted to derive care-seeking and caregiving factors. I examined whether the interactive effect of care-seeking
and caregiving mentalities predicted self-compassion and self-reassurance as proposed by Gilbert.

In Article 2, I sought to replicate and extend the findings of Article 1 by using a daily diary method. The daily diary design allowed for the examination of how self-compassion varies within and across individuals according to stable and momentary influences of care-seeking and caregiving. Article 2 also examined the constructs of received social support and given social support as more precise measures of care-seeking and caregiving respectively. In Article 2, participants completed measures of self-reassurance, received social support, and given social support every evening for seven days. I examined how received support and given support predicted self-reassurance at both the between-persons and within-person levels.

Because social mentality theory provides an explanation of the underlying mechanisms that give rise to self-compassion, in Article 3 I sought to test these causal hypotheses using an experimental design. Participants were randomly assigned to one of five intervention conditions, including recalling memories of care-seeking, caregiving, a combination of care-seeking and caregiving, having fun (active control group), or a no-treatment control group. Participants were assessed on pre-test self-reassurance, completed the intervention across four days, and then assessed on post-test self-reassurance. I examined whether self-reassurance would increase as a result of the care-seeking and caregiving interventions. I also examined whether individual difference variables, such as trait care-seeking, trait caregiving, and perceived stress, moderated the effect of the interventions.
The social mentality theory of self-compassion and self-reassurance:

The interactive effect of care-seeking and caregiving

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Abstract

The aim of this study was to test social mentality theory, which views self-compassion/reassurance as a form of intrapersonal relating in which the interpersonal mentalities of care-seeking and caregiving are activated. Self-report measures of motivations, cognitions, and behaviours related to seeking and receiving care from others were administered to 195 students. Self-compassion/reassurance was predicted by the interaction of care-seeking and caregiving, with the positive effect of care-seeking intensified at high caregiving. As hypothesized, the combination of high care-seeking and high caregiving predicted the highest level of self-compassion/reassurance. The lowest level of self-compassion/reassurance was predicted by the combination of low care-seeking and high caregiving consistent with the concept of compulsive caregiving. Findings suggest that fostering a kinder way of relating to oneself may be achieved through more effective care-seeking and caregiving with others.

Keywords: Self-compassion, self-reassurance, social mentality, care-seeking, caregiving
The social mentality theory of self-compassion and self-reassurance:
The interactive effect of care-seeking and caregiving

Self-compassion and self-reassurance are ways of relating to oneself with care and concern in the context of personal inadequacies, failures, and difficult life struggles. Self-compassion is characterized by the three components of being kind to oneself rather than critical, seeing one’s troubles as part of a common humanity rather than isolating, and being mindful of one’s distress rather than avoiding or over-identifying with it (Neff, 2003). Similarly but more narrowly defined, self-reassurance is the ability to be kind, caring, and supportive to oneself in the face of setbacks (Gilbert, Clarke, Hempel, Miles, & Irons, 2004). The growing body of literature on self-compassion/reassurance indicates it is an important predictor of well-being (for a review, see Barnard & Curry, 2011). Self-compassion is associated with positive psychological functioning, including greater purpose in life, low perceived stress, and high life satisfaction (Neely, Schallert, Mohammed, Roberts, & Chen, 2009). Self-compassion (Neff, 2003; Neff, Kirkpatrick, & Rude, 2007; Raes, 2010) and self-reassurance (Castilho, Pinto-Gouveia, Amaral, & Duarte, 2014; Gilbert et al., 2008; Irons, Gilbert, Baldwin, Baccus, & Palmer, 2006) are negatively correlated with indices of psychopathology including anxiety and depressive symptoms.

Given the significant implications for well-being, the origins of self-compassion/reassurance are important to delineate. Approaches to developmental psychology from various perspectives, including attachment theory (Bowlby, 1969/1982), interpersonal theories (e.g., Baldwin, 1992), and psychoanalytic traditions (e.g., Blatt, 1974; Kernberg, 1976) view early experiences with caregivers and peers as important in influencing working models of self and others. Individuals raised by caring and supportive caregivers are theorized to be more
able to relate to themselves in a compassionate and reassuring way. Research on the origins of self-compassion/reassurance has supported this view. Neff and McGehee (2010) found that adolescents’ recollections of greater maternal support were associated with higher levels of self-compassion, while greater maternal criticism was linked with lower levels of self-compassion. Additionally, self-compassion was predicted by the degree of family functioning such that individuals from close, conflict-free families were more self-compassionate. Pepping, Davis, O’Donovan and Pal (2015) demonstrated that recalled poor parenting during childhood (i.e., low warmth, high over-protection, and high rejection) was associated with lower self-compassion, and this relationship was mediated by heightened attachment anxiety. Similarly, recall of parental warmth was associated with the ability to be self-reassuring (Irons et al., 2006). Overall, findings suggest that people tend to relate to themselves with compassion and reassurance to the degree that others have related to them in that manner.

While existing developmental theories (Baldwin, 1992; Blatt, 1974; Bowlby, 1969/1982; Kernberg, 1976) focus on how others’ behaviours towards the self influence self-to-self relating, Gilbert’s (1989, 2000) social mentality theory suggests that individuals relate to themselves through systems that were originally evolved for relating to others. Social mentalities are internal systems that “generate patterns of cognition, affect and behaviour … that allow for the enactment of social roles” (Gilbert, 2000, p. 120) to solve social challenges essential for survival, such as care-seeking, mating, cooperation, and competition. A social mentality orients a person to create certain roles with others (e.g., seeking affiliation with a friend versus seeking dominance of a rival) and guides interpretation of the roles others are enacting (e.g., perceiving others as acting in a friendly versus competitive way towards the self). Importantly, a distinguishing feature of the human species is our higher-order cognitive capacity for self-
awareness, imagination, and reflection. Thus, it is theorized that both internal and external stimuli can produce similar responses. For instance, people can bring about their own sexual arousal through fantasy and imagination (i.e., internal stimulus) in the absence of a sexual partner (i.e., external stimulus). Therefore, Gilbert (1989, 2000) suggests that social mentalities are activated not only in relations with others but also in relations within the self.

The combination of care-seeking and caregiving social mentalities is theorized to underlie self-compassion/reassurance (Gilbert, 2000, 2005). Capacities for care-seeking and caregiving have generally been examined within the context of attachment theory (Bowlby 1969/1982) in which humans are theorized to possess the innate behavioural systems of attachment and caregiving. According to Bowlby (1969/1982), the function of the attachment system is to protect individuals from danger by ensuring that they maintain proximity to caring and supporting others and it includes competencies for expressing distress and being responsive to others’ signals of care. Conversely, the function of the caregiving system is to provide protection and support to others in need and it involves competencies for assessing the needs of the other, empathic understanding, and being responsive through caring behaviours. Gilbert’s (2000, 2005) concepts of care-seeking and caregiving social mentalities map onto Bowlby’s (1969/1982) theories of the attachment and caregiving systems, respectively. According to Gilbert (2005), in the same way that the care-seeking and caregiving mentalities are activated when relating to others (e.g., crying child and comforting mother), they can also be activated when relating to the self. Thus, self-compassion/reassurance is viewed as a form of self-to-self relating in which the care-seeking mentality signals distress and need for care, and the caregiving mentality responds with compassionate thought and emotion directed inward (Gilbert, 2005).
The association between self-compassion/reassurance and care-giving has been documented in several studies. In a study of undergraduate students and community adults (Neff & Pommier, 2012), higher levels of self-compassion were related to measures of other-focused concern, including higher levels of perspective-taking and forgiveness. Among the community adults only, self-compassion was positively associated with compassion for others, empathic concern, and altruism. Within the context of romantic relationships, self-reported levels of self-compassion have been found to be associated with partner-reported levels of caregiving behaviours (Neff & Beretvas, 2012). Thus, to the degree that individuals were kind and caring towards themselves, their partners described them as more affectionate, warm, and considerate.

In a study of undergraduate roommates, Crocker and Canevello (2008) showed that having compassionate goals for one’s roommate was associated with higher compassion for oneself. In an fMRI study by Longe et al. (2010), participants were asked to imagine relating to themselves in a way that was reassuring versus critical in response to various scenarios. Engaging in self-reassurance was associated with left insula activation, which is a brain region that has been associated with expressing compassion and empathy towards others (Lutz, Brefczynski-Lewis, Johnstone, & Davidson, 2008). This suggests that caring for the self and caring for others may be neurologically linked. Further, Breines and Chen (2013) conducted a series of experiments that examined whether activating support-giving schemas can momentarily influence self-compassion. Results demonstrated that recalling memories of giving support, as well as actually giving support in a lab-based task, increased state self-compassion. Taken together, results from cross-sectional, neuroimaging, and experimental studies suggest that the capacity to give care to others underlies the capacity to be compassionate and reassuring to oneself. Attachment security has been shown to be related to self-compassion (Neff & McGehee, 2010) and self-reassurance
(Irons et al., 2006), but there is otherwise limited empirical support for the association between care-seeking and compassion for self.

In the present study, we sought to examine the predictive influence of both care-seeking and caregiving social mentalities that are believed to underlie self-compassion and self-reassurance. In accordance with prior findings, we hypothesized two main effects such that self-compassion and self-reassurance would be positively associated with both care-seeking and caregiving. Additionally, we hypothesized that self-compassion and self-reassurance would be predicted by a synergistic two-way interaction of care-seeking and caregiving in accordance with social mentality theory (Gilbert, 2005). That is, we expected the combined capacities for care-seeking and caregiving would produce a stronger effect on self-compassion and self-reassurance than the sum of the separate main effects. To our knowledge, the present study is the first to empirically test the social mentality theory of self-compassion/reassurance by examining both care-seeking and caregiving constructs in an integrated framework.

**Method**

*Participants and Procedure*

Participants were 195 undergraduate and graduate students at a large Canadian university (94 men, 101 women) ranging in age from 18 to 29 years old ($M = 20.88$, $SD = 2.32$). Participants were primarily of Caucasian background (63.7%), followed by Chinese (14.5%), South Asian (11.7%), Korean (3.4%), and other ethnic backgrounds (6.7%). The sample was recruited through advertisements in the university classifieds, Facebook, Craigslist, flyers posted around campus, and the university psychology research participant pool. Participants received $20 compensation or credit towards a course in undergraduate psychology. Participants completed a series of self-report measures online.
**Measures**

A review of the literature yielded a lack of self-report measures explicitly assessing care-seeking and caregiving mentalities suitable for our research questions. Therefore, we administered multiple measures that assessed conceptually relevant motivations, cognitions, and behaviours with the intent to factor analyze these measures and create care-seeking and caregiving factors.

**Receiving and Giving Social Support**

Participants’ experiences of receiving and giving social support were assessed using the 2-Way Social Support Scale (2-WSS; Shakespeare-Finch & Obst, 2011). The 2-WSS is a 20-item questionnaire rated on a 6-point Likert-type scale ranging from 0 (*not at all*) to 5 (*always*). It comprises four factors of social support, including receiving emotional support (e.g., “There is someone in my life that makes me feel worthwhile”), receiving instrumental support (e.g., “There is someone who can help me fulfil my responsibilities when I am unable”), giving emotional support (e.g., “People confide in me when they have problems”), and giving instrumental support (e.g., “I am a person others turn to for help with tasks”). Higher scores on each subscale indicate a greater extent of giving or receiving emotional or instrumental support. Scores from the four subscales have been shown to have moderate to high internal reliability ranging from .81 to .92, and good convergent validity (Shakespeare-Finch & Obst, 2011). In the present study, Cronbach’s alphas were .91 for the subscale score of receiving emotional support, .74 for the subscale score of receiving instrumental support, .86 for the subscale score of giving emotional support, and .78 for the subscale score of giving instrumental support.
Compassionate Love for Others

Compassionate love is an attitude towards others involving cognitions, feelings, and behaviours that are oriented towards caring and supporting the other. Compassionate love for others in general (i.e., strangers and humanity) was assessed using the Compassionate Love Scale (CLS; Sprecher & Fehr, 2005). The CLS is a 21-item questionnaire rated on a seven-point Likert-type scale ranging from 1 (not at all true of me) to 7 (very true of me). Items include “I very much wish to be kind and good to fellow human beings” and “If I encounter a stranger who needs help, I would do almost anything I could to help him or her”. Higher scores reflect higher levels of compassionate love. Measurement using the CLS has been found to have good convergent and discriminant validity (Sprecher & Fehr, 2005). Cronbach’s alpha for the CLS total score in our study was .94.

Compassionate and Self-Image Goals

Compassionate goals involve a motivation towards supporting and benefitting others, while self-image goals involve a motivation towards maintaining a desired self-image to benefit the self. The Compassionate and Self-Image Goals Scale (CSIG; Crocker & Canevello, 2008) is a 13-item questionnaire rated on a 5-point Likert-type scale ranging from 1 (not at all) to 5 (extremely). All items begin with the phrase, “In the past week, in the area of friendships, how much did you want to or try to…” Seven items assessed compassionate goals (e.g., “make a positive difference in someone else’s life”) and six items assessed self-image goals (e.g., “get others to recognize or acknowledge your positive qualities”). Higher scores on each subscale indicate a greater extent of having a compassionate or self-image motivational orientation. In the present study, Cronbach’s alpha was .70 for the score on the compassionate goals subscale and .72 for the score on the self-image goals subscale.
Distress Disclosure

The tendency to disclose personally distressing information about oneself was measured using the Distress Disclosure Index (DDI; Kahn & Hessling, 2001). The DDI is a 12-item questionnaire rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Items on the DDI include “When something unpleasant happens to me, I often look for someone to talk to” and “I try to find people to talk with about my problems.” Higher scores indicate greater tendency to disclose distress. Previous research has demonstrated evidence for the DDI’s good internal consistency, test-retest reliability, and criterion-related and construct validity (for a review, see Kahn, Hucke, Bradley, Glinski, & Malak, 2012). Cronbach’s alpha for the total score in the present sample was .93.

Support-Seeking

The tendency to seek social support when dealing with stressful events was assessed using the Emotional Support-Seeking subscale (e.g., “When I'm depressed I get out and talk to others”) and the Instrumental Support-Seeking subscale (e.g., “Information I get from others has often helped me deal with my problems”) of the Proactive Coping Inventory (PCI; Greenglass, Schwarzer, & Taubert, 1999). The Emotional Support-Seeking subscale is comprised of five items and the Instrumental Support-Seeking subscale is comprised of eight items. Items are scored on a 4-point Likert-type scale ranging from 1 (not at all true) to 4 (completely true). Higher scores on each subscale indicate a greater tendency to seek emotional or instrumental support. Measurement using the PCI has demonstrated good psychometric properties (e.g., Greenglass, 2002). In the present study, Cronbach’s alpha was .83 for the score on the emotional support-seeking subscale and .85 for the score on the instrumental support-seeking subscale.
Fears of Expressing and Receiving Compassion

The Fears of Compassion Scales (FOCS; Gilbert, McEwan, Matos, & Rivis, 2011) is a set of three scales assessing (a) fear of expressing compassion for others (e.g., “People will take advantage of me if they see me as too compassionate”), (b) fear of receiving compassion from others (e.g., “When people are kind and compassionate towards me I feel anxious or embarrassed”), and (c) fear of expressing compassion for oneself. The FOCS is rated on a 5-point Likert scale ranging from 0 (don’t agree at all) to 4 (completely agree). We used the first two scales only, including 10 and 13 items respectively. Higher scores on each scale reflect higher fear of expressing compassion for others or fear of receiving compassion from others. In the present study, the scale scores demonstrated good internal consistency with Cronbach’s alpha of .85 and .91 respectively.

Excessive Reassurance-Seeking

Excessive reassurance-seeking was assessed using the four-item Reassurance Seeking subscale of the Depressive Interpersonal Relationships Inventory (DIRI-RS; Joiner & Metalsky, 2001). On a 7-point Likert-type scale ranging from 1 (not at all) to 7 (extremely often), respondents rated items such as “Do the people you feel close to sometimes get fed up with you for seeking reassurance from them about whether they really care about you?”. Higher scores reflect greater tendency to excessively seek reassurance. Cronbach’s alpha for the total score was .88 in the present study.

Self-Compassion

Dispositional self-compassion was assessed using the Self-Compassion Scale (SCS; Neff, 2003). The SCS is a 26-item questionnaire rated on a 5-point Likert-type scale ranging from 1(almost never) to 5(almost always). The SCS comprises six subscales assessing self-kindness
(e.g., “When I’m going through a very hard time, I give myself the caring and tenderness I need”), self-judgment (e.g., “I’m disapproving and judgmental about my own flaws and inadequacies”), common humanity (e.g., “When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people”), isolation (e.g., “When I fail at something that’s important to me, I tend to feel alone in my failure”), mindfulness (e.g., “When something upsets me I try to keep my emotions in balance”), and over-identification (e.g., “When I’m feeling down I tend to obsess and fixate on everything that’s wrong”). Previous research has demonstrated good convergent and discriminant validity for scores on the SCS (Neff, 2003, 2009). A principal factor analysis of the 26 SCS items was conducted in the present sample. The scree plot and Kaiser criterion indicated a one-factor solution accounting for 64.4% of the total variance and subsequent components accounting for less than 12% each. Therefore, we used the total score in our study, which is also in accordance with previous research using the SCS. Higher scores reflect higher levels of self-compassion. Cronbach’s alpha for the total score in our study was .92.

**Self-Reassurance**

The ability to be kind and reassuring to oneself in the context of a perceived failure was assessed using the Reassured Self subscale of the Forms of Self-Criticism/Self-Reassuring Scale (FSCRS; Gilbert et al., 2004). The FSCRS subscale consists of 8 items (e.g., “I am gentle and supportive with myself”) rated on a 5-point Likert-type scale ranging from 0 (*not at all like me*) to 4 (*extremely like me*). Higher scores reflect higher levels of self-reassurance. Scores on the FSCRS have shown good psychometric properties (Baiaõo, Gilbert, McEwan, & Carvalho, 2014). In our study, Cronbach’s alpha was .86 for the subscale score.
Results

Means and standard deviations of scores from the current study are comparable to values reported in the literature. The assumptions for the following statistical analyses were examined at each step of data analysis. The assumptions of linearity, homoscedasticity, independence, and normality of the error distribution were met. Because participants were free to complete or omit questionnaires, the sample size and degrees of freedom varies slightly across different analyses. The sample size of 195 consisted of participants who completed the demographics survey and at least 2 questionnaires. 178 participants provided complete data, while 18 participants omitted at least 1 questionnaire. Of these 18 participants, 1 completed more than 75% of the questionnaires, 3 completed more than 50%, 6 completed more than 25%, and 8 completed less than 10%. The number of participants who omitted questionnaires ranged from 1 for the FSCRS to 18 for the DDI.

Exploratory Factor Analysis

Two exploratory factor analyses were conducted to derive care-seeking and caregiving factors from the conceptually related measures we administered. The first factor analysis included the following scales related to care-seeking: 2-WSS (receiving emotional support and receiving instrumental support subscales), DDI, PCI (seeking emotional support and seeking instrumental support subscales), FOCS (fear of receiving compassion subscale), and DIRI-RS. The DIRI-RS is a measure of excessive reassurance-seeking that was included in the factor analysis in order to distinguish between adaptive and maladaptive care-seeking. The scree plot and Kaiser criterion indicated a two-factor solution, while results of parallel analysis (Horn, 1965) suggested retaining one factor and tentatively keeping the second factor (random data eigenvalue of 1.17 is marginally greater than actual data eigenvalue of 1.15). We examined both
one-factor and two-factor solutions. For the one-factor solution, all care-seeking measures except for excessive reassurance-seeking loaded strongly on the factor. The excessive reassurance-seeking measure was omitted due to low factor loading (-.14). For the two-factor solution, the first factor consisted of all care-seeking measures with the exception of excessive reassurance-seeking, while the second factor consisted solely of the excessive reassurance-seeking measure. Thus, both the one-factor and two-factor solutions yielded identical outcomes in terms of extracting a single adaptive care-seeking factor. Here, we elected to present the two-factor solution. All combinations of principal components and maximum likelihood extraction methods with promax (oblique) and varimax (orthogonal) rotations were conducted. There was little difference between solutions. A principal components extraction with promax rotation was chosen for the final solution. The first factor explained 51.4% of the variance and the second factor explained 16.4% of the variance. In the final solution after rotation (factor loadings are specified in parentheses), the first factor was comprised of measures of seeking emotional support (.85), distress disclosure (.82), seeking instrumental support (.81), receiving emotional support (.77), receiving instrumental support (.63), and fear of receiving compassion (-.55). The second factor was comprised solely of the excessive reassurance-seeking measure (.89). The correlation between the two rotated factors was -.16. We interpreted the first factor as a measure of adaptive care-seeking and the second factor as a measure of maladaptive care-seeking. This result provided support for discriminant validity as intended. The first factor was retained for subsequent analyses because it accorded with our conceptualization of care-seeking, while the second factor was omitted.

The second factor analysis included the following scales related to caregiving: 2-WSS (giving emotional support and giving instrumental support subscales), CLS, CSIG
(compassionate goals and self-image goals subscales), and FOCS (fear of expressing compassion subscale). The same procedure for determining the final factor solution was followed as above. Similarly, there was little difference between solutions. A principal components extraction with promax rotation was chosen for the final solution. The scree plot, Kaiser criterion, and results from parallel analysis indicated a two-factor solution. The first factor explained 39.6% of the variance and the second factor explained 21.3%. In the final solution after rotation, the first factor was comprised of measures of giving emotional support (.82), giving instrumental support (.81), compassionate love (.71), and compassionate goals (.70). The second factor was comprised of measures of self-image goals (.82) and fear of expressing compassion (.71). The correlation between the two rotated factors was -.10. We interpreted the first factor as a measure of caregiving oriented towards benefiting others, and the second factor as a measure of withholding caregiving in order to benefit the self. The first factor was retained for subsequent analyses because it accorded with our conceptualization of caregiving, while the second factor was omitted.

Approximate factor scores were computed for the care-seeking and caregiving variables by taking the mean of the standardized scores of the scales that loaded on those factors. The Cronbach’s alphas were .86 for the constituent scales of the care-seeking factor and .76 for the caregiving factor.

**Descriptive Statistics**

Means, *SDs*, and correlations are presented in Table 1. Consistent with our hypotheses, care-seeking and caregiving correlated positively with self-compassion and self-reassurance. There was a strong positive correlation between self-compassion and self-reassurance as expected, but they were not so highly correlated as to suggest they are identical and
interchangeable constructs. There was also a moderate positive correlation between care-seeking and caregiving. To examine potential gender differences, independent samples $t$-tests were conducted for all the variable of interest. There were significant effects of gender for care-seeking, $t(185) = -3.26, p = .001, d = .48$, with women ($M = 0.23, SD = 1.06$) having higher levels of care-seeking than men ($M = -0.24, SD = 0.88$), and caregiving, $t(179) = -4.50, p < .001, d = .66$, with women ($M = 0.31, SD = 0.89$) having higher levels of caregiving than men ($M = -0.32, SD = 1.01$). These results are consistent with previous findings indicating gender differences in care-seeking (Tamres, Janicki, & Helgeson, 2002) and caregiving (Kunkel & Burleson, 1998).

**Regression Analyses**

Hierarchical regression models were tested to examine our hypotheses regarding care-seeking and caregiving social mentalities predicting first, self-compassion and second, self-reassurance.

**Self-Compassion**

Care-seeking and caregiving were standardized and then entered in the first step of the regression predicting self-compassion. The overall model was significant, adjusted $R^2 = .134$, $F(2, 178) = 15.01, p < .001$. Greater care-seeking was associated with greater self-compassion, $b = 6.31, SE_b = 1.30, \beta = .39, t(178) = 4.87, p < .001$, but there was no main effect of caregiving, $b = -0.18, SE_b = 1.30, \beta = -.01, t(178) = -0.14, p = .89$. The interaction between care-seeking and caregiving was then entered in the second step of the regression predicting self-compassion. The overall model was significant, adjusted $R^2 = .192$, $F(3, 177) = 15.26, p < .001$. The interaction was significant, $b = 4.05, SE_b = 1.10, \beta = .25, t(177) = 3.69, p < .001$, suggesting that the effect of care-seeking on self-compassion depended on the level of caregiving (see Figure 1).

We probed the interaction by first examining the simple slopes and then testing the
difference between point estimates at low (-1 SD) and high (+1 SD) levels of care-seeking and caregiving. Simple slopes analysis revealed a positive association between care-seeking and self-compassion at high caregiving, $b = 10.68$, $SE_b = 1.72$, $\beta = .66, p < .001$, but no association at low caregiving, $b = 2.59$, $SE_b = 1.61$, $\beta = .10, p = .11$. Examining the effect of caregiving on self-compassion at high care-seeking indicated that the point estimate at high caregiving ($M = 85.32$, $SE = 1.78$) was greater than the point estimate at low caregiving ($M = 78.18$, $SE = 2.83$), $t(177) = -2.21, p = .028$. Additionally, the highest point estimate of self-compassion at high care-seeking and high caregiving ($M = 85.32$, $SE = 1.78$) was greater than the average estimate of the three other points ($M = 71.72$, $SE = 1.47$), $t(177) = 6.05, p < .001$. Together, these results support our hypothesis that individuals who have heightened capacities for both care-seeking and caregiving exhibit the highest levels of self-compassion.

Examining the effect of caregiving on self-compassion at low care-seeking indicated that the point estimate at high caregiving ($M = 63.96$, $SE = 3.00$) was less than the point estimate at low caregiving ($M = 73.01$, $SE = 1.77$), $t(177) = 2.63, p = .009$. Additionally, results indicated that the lowest point estimate of self-compassion at low care-seeking and high caregiving ($M = 63.96$, $SE = 3.00$) was significantly less than the average estimate of the three other points ($M = 78.83$, $SE = 1.32$), $t(177) = 4.47, p < .001$. Together, these results suggest that individuals who give care to others but do not also seek care from others have the lowest levels of self-compassion. This finding was not initially hypothesized.

**Self-Reassurance**

The same analytic strategy as above was used to examine the effects of care-seeking and caregiving on self-reassurance. Care-seeking and caregiving were entered in the first step of the regression predicting self-reassurance. The overall model was significant, adjusted $R^2 = .207$, 


Greater care-seeking was associated with greater self-reassurance, \( b = 2.50, SE_b = 0.46, \beta = .41, t(178) = 5.45, p < .001 \), but there was no main effect of caregiving, \( b = 0.56, SE_b = 0.46, \beta = .09, t(178) = 1.22, p = .22 \). The interaction between care-seeking and caregiving was then entered in the second step of the regression predicting self-reassurance. The overall model was significant, adjusted \( R^2 = .231, F(3, 177) = 18.97, p < .001 \). The interaction was significant, \( b = 1.01, SE_b = 0.39, \beta = .17, t(177) = 2.55, p = .01 \), suggesting that the effect of care-seeking on self-reassurance depended on the level of caregiving (see Figure 2).

Simple slopes analysis revealed a positive association between care-seeking and self-reassurance at high caregiving, \( b = 3.58, SE_b = 0.62, \beta = .61, p < .001 \), and a weaker positive association at low caregiving, \( b = 1.57, SE_b = 0.58, \beta = .27, p = .007 \). Examining the effect of caregiving on self-reassurance at high care-seeking indicated that the point estimate at high caregiving (\( M = 24.27, SE = 0.64 \)) was greater than the point estimate at low caregiving (\( M = 21.29, SE = 1.02 \)), \( t(177) = -2.98, p = .011 \). Additionally, the highest point estimate of self-reassurance at high care-seeking and high caregiving (\( M = 24.27, SE = 0.64 \)) was greater than the average estimate of the three other points (\( M = 18.85, SE = 0.53 \)), \( t(177) = 6.70, p < .001 \).

Together, these results support our hypothesis that individuals who have heightened capacities for both care-seeking and caregiving exhibit the highest levels of self-reassurance.

There was no effect of caregiving on self-reassurance at low care-seeking, \( t(177) = 0.84, p = .40 \). However, results indicated that the lowest point estimate of self-reassurance at low care-seeking and high caregiving (\( M = 17.10, SE = 1.08 \)) was significantly less than the average estimate of the three other points (\( M = 21.23, SE = 0.48 \)), \( t(177) = 3.44, p < .001 \). This result suggests that individuals who give care to others but do not also seek care from others have the lowest levels of self-reassurance. This finding was not initially hypothesized.
Supplementary Analyses

Prior work has suggested that the SCS measures two separate constructs with the positive items assessing self-compassion and the negative items assessing self-criticism or self-coldness (Gilbert et al., 2011). Therefore, we tested the same hierarchical regression models as above with the positive items of the SCS in place of the total score. The same results were found. These results are not presented here to conserve space but are available upon request.

Discussion

Our findings indicated a positive zero-order association between caregiving and self-compassion/reassurance in accordance with previous studies (e.g., Breines & Chen, 2013; Crocker & Canevello, 2008; Longe et al., 2010; Neff & Beretvas, 2012; Neff & Pommier, 2012). Results also showed a positive zero-order association between care-seeking and self-compassion, which is consistent with findings demonstrating a positive relationship between attachment security and self-compassion/reassurance (Irons et al., 2006; Neff & McGehee, 2010). We had hypothesized two positive main effects of care-seeking and caregiving on self-compassion/reassurance in accordance with prior findings. However, when both care-seeking and caregiving were entered into the regression model, results indicated a main effect of care-seeking only. Previous studies had not examined the constructs of care-seeking and caregiving together in predicting self-compassion/reassurance. Therefore, the extent to which one relates to oneself in a compassionate and reassuring way is uniquely predicted by the capacity for seeking care rather than the capacity for giving care.

Although care-seeking was a significant predictor of self-compassion and self-reassurance, caregiving also exerted a moderating effect when the interaction of care-seeking and caregiving was included in the regression model. The positive relation of care-seeking and self-
compasion/reassurance was intensified when individuals also possessed high capacities for caregiving. Humans are theorized to possess innate behavioural systems for care-seeking and caregiving (Bowlby, 1969/1982; Gilbert, 2000, 20005). As for any human competency, care-seeking and caregiving mentalities need to be stimulated by early developmental experiences so that appropriate interpersonal scripts are learned and elaborated. The extent to which care-seeking and caregiving roles are enacted in one’s present relationships will potentially further influence the ease of accessibility of that mentality. According to social mentality theory, both care-seeking and caregiving mentalities are activated when one is being self-compasionate/reassuring. Individuals who are high care-seekers and high caregivers are those who have the ability, comfort, and opportunity for enacting these social mentalities with others. Thus, they are likely to have more elaborated memories of both effective care-seeking and caregiving that are more readily activated. In accordance with our hypothesis of a synergistic interaction, the highest level of self-compassion and self-reassurance was predicted by the combination of both high care-seeking from others and high caregiving to others.

Our hypothesis of a synergistic interaction was not entirely supported, however, because the lowest level of self-compassion and self-reassurance was observed at low care-seeking and high caregiving. Our findings suggest that individuals who give care to others but do not also seek care from others have deficits in self-compassion and self-reassurance. This pattern is consistent with the concept of compulsive caregiving (Bowlby, 1977), an attachment style in which an individual emphasizes giving care within relationships rather than receiving it. Compulsive caregiving is theorized to develop in response to a child’s early experiences of being forced to care for an attachment figure (e.g., a parent) wherein the child’s own need for care is stifled in order to maintain the relationship. Therefore, expending cognitive and emotional
resources caring for others (i.e., having an overly elaborated and chronically activated caregiving mentality) without the opportunity to seek and receive care for oneself (i.e., having an under-developed care-seeking mentality) is likely to lead to deficits in self-compassion/reassurance.

The potential mediating mechanisms that link care-seeking and caregiving to self-compassion/reassurance may involve underlying physiological systems. According to Gilbert’s (2005) tripartite model of affect regulation, three interacting systems evolved to respond to signals of threat, rewards/resources, and affiliation, which respectively trigger negative affect, high-arousal positive affect, and feeling secure and warm with others. Care-seeking and caregiving are thought to involve an up-regulation of the affiliation system and a corresponding down-regulation of the threat system. The same pattern of affect regulation is thought to underlie self-compassion/reassurance. The extent to which these systems are developed and elaborated depend on early interpersonal experiences, while accessibility of these systems is influenced by opportunities afforded in one’s present social context.

Both self-compassion and self-reassurance are adaptive ways of relating to oneself in the context of negative personal events. Self-compassion is a broader construct operationalized as including the distinct components of being kind to oneself, common humanity, and a mindfulness of distress (Neff, 2003), while self-reassurance is more narrowly characterized by the self-kindness component (Gilbert et al., 2004). Our findings were replicated across these two similar, but not identical, constructs of self-compassion and self-reassurance, thereby increasing confidence in the robustness of the results.

Our findings have implications for both theory and practice. These findings add to the limited empirical support for the social mentality theory of self-compassion/reassurance and lead to a better understanding of its interpersonal correlates and, perhaps, underlying interpersonal
mechanisms. Consequently, researchers and clinicians will be better able to design interventions aimed at increasing self-compassion/reassurance by influencing an individual’s interpersonal context. Prior work has suggested that highly self-critical individuals struggle with fostering self-compassion (Gilbert & Irons, 2004; Shahar et al., 2012). Therefore, rather than targeting self-compassion directly and meeting resistance, it may be more feasible to target care-seeking and caregiving behaviours with others, which in turn, may boost self-compassion. It will be important to endorse care-seeking and caregiving in equal measure, though, to prevent the consequences of compulsive caregiving. This echoes the aims of a preliminary virtual reality intervention in which self-critical participants first embodied a caregiving role, then experienced their own compassionate response in a care-receiving role (Falconer et al., 2014).

**Limitations**

Although findings are consistent with social mentality theory and experimental manipulations (Breines & Chen, 2013) that suggest the way we relate to others consequently influences how we relate to ourselves, the cross-sectional design of this study precluded definitive conclusions about directionality and causality. The results of this study may also be of limited generalizability given that the sample comprised solely university students. Another concern is that of shared method variance due to the exclusive use of self-report and single-informant measures that may inflate the associations between variables.

**Conclusion**

Relating to ourselves in a kind, compassionate way has profound outcomes for our well-being. Previous research on the origins of self-compassion/reassurance has focused on the influence of early interpersonal experiences. We learn to relate to ourselves in the way that others have related to us (i.e., other-to-self-relating). However, social mentality theory suggests
that self-compassion/reassurance operates through systems originally evolved for navigating social roles (i.e., self-to-other relating). Our findings provide the first empirical support for social mentality theory that views self-compassion/reassurance as a form of intrapersonal relating in which both interpersonal mentalities of care-seeking and caregiving are activated.
References for Article 1


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Note. Care-Seek and Caregive are approximate factor scores computed by taking the average of standardized items that loaded highly on that factor. * p < .05. ** p < .001.
Figure 1. Relationship between self-compassion and care-seeking with low and high caregiving (± 1 SD). Error bars represent standard errors.
Figure 2. Relationship between self-reassurance and care-seeking with low and high caregiving (± 1 SD). Error bars represent standard errors.
Bridge to Article 2

Article 1 offered a preliminary test of social mentality theory (Gilbert, 2000, 2005). It is the first study to examine the combined and interactive influence of care-seeking and caregiving in predicting self-compassion. The highest level of self-compassion was found to be predicted by the combination of high care-seeking and high caregiving. The lowest level of self-compassion was predicted by low care-seeking and high caregiving. This was an unexpected finding and consistent with the notion of compulsive caregiving (Bowlby, 1977).

According to theory, social mentalities are not static properties of an individual. Due to the cross-sectional methodology used in Article 1, it was not possible to examine social mentalities as dynamic, changing states within an individual. Therefore, the objective of Article 2 was to replicate and extend the preliminary findings of Article 1 by using a daily diary method. This methodology offers the opportunity to examine within-person effects as well as between-persons effects. Thus, Article 2 offers a more rigorous test of social mentality theory by examining how self-compassion varies across and within individuals as a function of stable and momentary influences of care-seeking and caregiving mentalities. Furthermore, to extend findings of Article 1, received social support and given social support were used as more precise measures of care-seeking and caregiving respectively.
Receiving support, giving support, and self-reassurance: A daily diary test of social mentality theory

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Abstract

Social mentality theory suggests that the ability to be reassuring and compassionate to oneself relies on evolved systems of care-seeking and caregiving with others. Using a daily diary methodology and multilevel modelling, the present study examined between-persons and within-person effects of received social support and given social support on self-reassurance. Ninety-nine students completed daily diary measures of self-reassurance, received support, and given support for seven days. Findings showed that individuals who, on average, received and gave more support than others were more self-reassuring. Additionally, individuals were more self-reassuring on days they received and gave more support than usual. Lastly, averaged over the week, the highest level of self-reassurance was predicted by the combination of high received support and high given support, while deficits in self-reassurance was predicted by the combination of low received support and high given support. Findings are consistent with social mentality theory showing that the degree of care-seeking and caregiving with others, on a daily basis and averaged over time, predicts the capacity to be self-reassuring.

Keywords: Self-reassurance, self-compassion, social mentality theory, social support, care-seeking, caregiving
Receiving support, giving support, and self-reassurance:
A daily diary test of social mentality theory

The way we relate to ourselves, especially when faced with personal difficulties and failures, has a powerful influence on our well-being. Being kind, compassionate, and reassuring towards ourselves is associated with greater life satisfaction, happiness, positive affect, and social connectedness (Barnard & Curry, 2011; Neff, Rude, & Kirkpatrick, 2007). Furthermore, the ability to be self-reassuring/compassionate is protective against psychological distress, including anxiety and depression (Castilho, Pinto-Gouveia, Amaral, & Duarte, 2014; Gilbert et al., 2008; Irons, Gilbert, Baldwin, Baccus, & Palmer, 2006). Given the robust relationship between self-reassurance/compassion and psychological health, it is important to understand the factors that facilitate this adaptive way of relating to the self.

Drawing from evolutionary perspectives, Gilbert (1998, 2000) has argued that self-to-self relating is based on innate psychobiological systems originally evolved for social interaction. These systems, termed social mentalities, coordinate patterns of thought, affect, and behaviour to orient us to form social roles with others that are essential for survival. For example, the care-seeking mentality coordinates interactions with others who can provide support and resources in times of need. Conversely, the caregiving mentality coordinates the provision of support and resources to others who are in need. Humans have evolved higher-order cognitive abilities such as self-awareness and imagination, which have allowed for intrapersonal relating in the absence of external others. Thus, social mentalities are thought to be activated when relating to oneself in the same way they are activated when relating to others. Specifically, it is theorized that when one is being self-reassuring, both care-seeking and caregiving mentalities are simultaneously
activated (Gilbert, 2005). The care-seeking mentality notices distress and signals need for care, while the caregiving mentality responds with compassion directed at the self.

Positive relationships between self-reassurance/compassion and caregiving constructs have been demonstrated in previous studies. Self-compassionate individuals exhibit greater concern for others (Neff & Pommier, 2012) and greater compassionate motivation towards their roommates (Crocker & Canevello, 2008). Within romantic relationships, self-compassionate people are perceived by their partners to be more caring and supportive (Neff & Beretvas, 2012). Additionally, an experimental study showed that recalling memories of giving care to others led to increased state self-compassion (Breines & Chen, 2013). A positive relationship between self-reassurance/compassion and care-seeking has also been documented. Self-compassionate (Neff & McGehee, 2010) and self-reassuring individuals (Irons et al., 2006) exhibit greater attachment security, which implies the willingness and ability to seek and receive care from others.

To our knowledge, there is only one study that examines the combined effect of both care-seeking and caregiving on self-reassurance/compassion. Hermanto and Zuroff (2016) showed that self-reassurance/compassion was predicted by the interaction of care-seeking and caregiving. Individuals who had the highest trait levels of self-reassurance/compassion were those who were high care-seekers and high caregivers in accordance with social mentality theory. Furthermore, individuals who had deficits in trait self-reassurance/compassion were those who were high caregivers but low care-seekers. This pattern is consistent with Bowlby’s (1977) concept of compulsive caregiving, in which giving care to others is unduly prioritized over receiving care.

Previous studies in this area have largely relied on cross-sectional assessment at a single time point. Cross-sectional studies allow for comparisons between people but do not permit the
examination of changes within an individual. Such designs are limited in their capacity to test the underlying theory because social mentalities are not static properties of individuals, but rather dynamic, changing states. Furthermore, daily diary assessment reduces the retrospective bias associated with survey designs that typically ask participants to respond in a broad and general way. Thus, the objective of the present study was to test the social mentality theory of self-reassurance using a daily diary methodology and multilevel modelling. In multilevel models, lower-level observations (in this case, daily reports) are nested within higher levels (in this case, individuals) to allow for the investigation of within-person effects (how experiences vary from day to day for the average individual) and between-persons effects (how a given individual’s weekly average experience differs from the experiences of other individuals). Overall, this analytic approach allows for a more rigorous examination of how self-reassurance varies within and across individuals as a function of stable and momentary influences of care-seeking and caregiving mentalities. Additionally, we aim to extend prior findings by examining received social support and given social support as more precise measures of care-seeking and caregiving respectively.

In the present study, participants were assessed at the end of the day for seven days on their daily levels of self-reassurance, received social support, and given social support. First, we hypothesized that self-reassurance would be positively associated with received and given support at both the daily (within-person) and the average, weekly (between-persons) levels. Second, we hypothesized that self-reassurance would be predicted at both levels by a synergistic interaction of received and given social support, with the highest levels of self-reassurance reported when both received and given support are elevated. We interpret Gilbert’s theory as implying that engaging in self-reassurance depends on the simultaneous activation of both the
care-seeking and caregiving systems. In other words, either capacity will promote self-reassurance, but simultaneous capacities for care-seeking and caregiving will further enhance self-reassurance. Lastly, given prior findings about deficits in self-reassurance (Hermanto & Zuroff, 2016), we hypothesized that the lowest levels of self-reassurance would be predicted by the combination of low received support and high given support at both the within-person daily level and between-persons weekly level.

Method

Participants

Participants were recruited through advertisements posted online on Facebook, Craigslist, and the university classifieds ads. Participants were required to be undergraduate students between the ages of 18 and 25, and fluent in written English. One-hundred and twenty-two participants (59 men, 63 women) began the study. Twenty-three participants (18.9%) who completed fewer than five diaries or who missed two consecutive diaries were omitted to eliminate possible sources of lower quality data. All reported effects remained significant and the pattern of interaction remained the same regardless of whether these 23 participants were included or excluded from the analyses. The final sample consisted of 99 participants (48 men, 51 women) with a mean age of 20.5 (SD = 1.76). Participants were of Caucasian background (73.4%), South Asian (13.8%), Chinese (5.3%), Black (2.1%), Latin American (2.1%), West Asian (2.1%), Korean (1%), and unspecified (5.1%).

Procedure

The study involved a laboratory session and a daily diary component. In the laboratory session, participants learned about the study, provided informed consent, and completed a battery of questionnaires online. We only report data from the demographics questionnaire for the
purpose of the present study. For seven days following the laboratory session, participants were emailed a link to complete online daily diary measures of self-reassurance, received social support, and given social support. They were asked to complete the measures between 6 p.m. that evening and 4 a.m. the following morning. Diaries completed after 4 a.m. the next day were considered missed. Participants were informed that they could miss up to one diary, and that if this occurred, they would be emailed an additional diary link at the end of the 7-day period. Participants were compensated $16 for the initial laboratory session, $2 for each completed diary, and a $20 bonus for completing all seven diaries.

**Daily Measures**

The daily measures were modified versions of widely used and validated questionnaires. The instructions and items were revised to have participants focus on their experiences and behaviours of the past day.

Reliability was assessed using Geldhof, Preacher, and Zyphur’s (2014) procedure for computing omega for multilevel data. Between-persons reliability indicates the extent to which differences in weekly average scores across individuals are consistent across items. Within-person reliability indicates the extent to which daily changes in item scores around their mean are similar across items. Between-persons and within-person omegas are presented in Table 1. Between-persons reliability was high for all variables. Within-person reliability was high for self-reassurance, and marginally acceptable for received social support and given social support.

**Self-Reassurance.** Self-reassurance was assessed using a shortened 5-item version of the Reassured Self subscale of the Forms of Self-Criticism/Self-Reassuring Scale (FSCRS; Gilbert et al., 2004). Participants indicated the extent to which they were reassuring of themselves during the past day when dealing with setbacks or failures (e.g., “I was able to feel lovable and
acceptable” and “I encouraged myself for the future”). Items were rated on a 5-point Likert scale ranging from 1 (not at all like me) to 5 (very much like me).

Received Social Support and Given Social Support. Received support and given support were assessed using shortened three-item subscales of the Social Provisions Scale (SPS; Cutrona, 1989; Cutrona & Russell, 1987). For each of the three social provisions – guidance, tangible assistance, and emotional closeness – participants rated from 1 (not at all) to 7 (very much) the extent to which they received the particular provision from someone else that day and the extent to which they gave the particular provision to someone else that day. Three items therefore comprised each social support measure. The three-item version of the SPS subscales have been used successfully in previous daily diary studies (e.g., Dunkley, Zuroff, & Blankstein, 2003; Kelly, Zuroff, Leybman, & Gilbert, 2012; Zuroff, Sadikaj, Kelly, & Leybman, 2015). Received support and given support as assessed by the SPS have been shown to be correlated in expected ways with measures of secure attachment (Kelly et al., 2012), compassionate motivation towards others (Zuroff et al., 2015), and positive and negative affect (Kelly et al., 2012; Zuroff et al., 2015).

Results

Means, standard deviations, intraclass correlations (ICCs), and reliabilities were estimated in Mplus and are presented in Table 1. The ICC is the ratio of between-persons variance to total variance (between-persons plus within-person variance) and reflects the extent to which trait or state influences are predominant. Values approaching 1.0 indicate that a characteristic is highly stable, and values approaching 0.0 indicates high variability from day to day. Table 1 shows that all variables displayed both within-person and between-persons variance with ICCs ranging from .43 (given social support) and .57 (self-reassurance).
Between-persons and within-person correlations were estimated in Mplus and are presented in Table 1. As predicted, self-reassurance, received support, and given support were positively correlated at within-person and between-persons levels. Correlations were overall stronger at the between-persons level than at the within-person level. The positive correlation between received support and given support at the between-persons level was unexpectedly high at .93.

Analytic Strategy

Multilevel analyses were conducted in SAS using PROC MIXED, maximum likelihood estimation, and the Kenward-Roger degrees of freedom approximation. Within-person predictors were centered within participants, so they represent daily deviations from the mean weekly levels experienced across all days. Between-persons predictors were standardized prior to being entered into the regression equation to examine interaction effects.

To examine our primary hypotheses, we followed the analytic strategy recommended by Wallace and Green (2002). Self-reassurance served as the outcome variable. As an initial step, we tested a model with a relatively simple structure for the random effects component and a relatively complex fixed effects structure. The random effects component consisted of a random intercept (i.e., we assumed there was variability across participants in their average level of self-reassurance) and an autoregressive covariance structure, a common structure for daily diary data. The fixed effects component included both level-1 (within-person) and level-2 (between-persons) predictors. The level-1 predictors consisted of daily deviation in received support, daily deviation in given support, and the interaction of these two terms. The level-2 predictors consisted of mean weekly level of received support, mean weekly level of given support, and the interaction of these two terms. Our strategy was to generate a more parsimonious fixed effect
component, so we deleted non-significant predictors and retained significant predictors. Next, we tested models with alternative random effects components while preserving the same fixed effects component from the previous step. As in the first model, the random effects component consisted of a random intercept and autoregressive covariance structure, but we also included random slopes (i.e., we assumed there was variability across participants in the association between self-reassurance and the predictor variables). Then, we tested the same models with an autoregressive heterogeneous covariance structure that permits the random error variance to vary over days. Overall, four models were tested in which the fixed effects component was preserved and the random effects component was varied between a) fixed slopes or random slopes, and b) autoregressive or autoregressive heterogeneous covariance structures.

**Final Multilevel Model**

Across the four models tested, the same fixed effects emerged, and deviance tests using chi-squared distribution indicated no significant differences in model fit. According to AIC and BIC fit indices, the best-fitting model consisted of a random intercept and fixed slopes with an autoregressive covariance structure. In this final model, self-reassurance was predicted by the level-1 daily deviation in received support and given support, the level-2 mean weekly levels of received support and given support, and the interaction of the level-2 terms.

**Level-1 (Within-Person) Effects**

In the initial model, the level-1 interaction between daily deviation in received support and given support was not significant in predicting self-reassurance and was trimmed in accordance with the data analytic strategy. In the final model, there were significant level-1 main effects for daily deviation in received support (standardized slope = .10, slope = .05, SE = .02, \( F(1, 583) = 6.57, p = .01 \)) and daily deviation in given support (standardized slope = .16, slope =
Thus, participants experienced higher levels of self-reassurance on days they received more support than usual and on days they gave more support than usual.

**Level-2 (Between-Peoples) Effects**

In the final model, there was a significant main effect for mean weekly received support (standardized slope = .46, slope = .26, $SE = .11, F(1, 99) = 5.61, p = .02$), and a significant interaction between mean weekly received support and given support (standardized $b = .10, SE = .04, F(1, 99) = 5.10, p = .026$). Therefore, the effect of received support on self-reassurance depended on the level of given support (see Figure 1). The interaction was interpreted by examining the simple slopes and testing the difference between point estimates at low (-1 SD) and high (+1 SD) levels of received and given support. Simple slopes analysis revealed a positive association between self-reassurance and received support at high given support (standardized slope = .36, $SE = .12, t(99) = 2.91, p = .005$), but no association at low given support (standardized slope = .17, $SE = .11, t(99) = 1.48, p = .14$). There were no significant effects of given support on self-reassurance at either low or high received support. However, the highest point estimate of self-reassurance at high received support and high given support ($M = 3.84, SE = 0.08$) was significantly greater than the average estimate of the three other points ($M = 3.40, SE = .08$), $t(99) = 4.45, p < .001$. Together, these results support our hypothesis that individuals who receive high levels of support and also give high levels of support are the most self-reassuring. The lowest level of self-reassurance was seen in individuals who received low levels of support and gave high levels of support. This lowest point estimate of self-reassurance ($M = 3.12, SE = 0.24$) was marginally less than the average estimate of the three other points ($M =$
3.64, \( SE = 0.10 \), \( t(100) = 1.74, p = .085 \), suggesting that individuals who give support to others but do not receive support in return have deficits in self-reassurance.

**Influence Analysis.** Given the large standard errors for the point estimate for high received support and low given support and the point estimate for low received support and high given support, we conducted influence analysis in PROC MIXED to examine potential outliers and other influential data points. Influence analysis determines the extent to which certain observations, through their presence or absence in the data, alter the results of the model. Because of the nested data structure, we examined the influence of clusters (daily reports within individuals), rather than individual observations (daily reports). We ran influence analysis examining influence on the overall model, on the estimates of the fixed effects, and on the estimates of the covariance parameters. Three influential clusters (individuals) were identified. We systematically removed one cluster at a time, then combinations of two clusters, then all three clusters, and re-ran the model after each step. In each instance, the results remained the same as the final model results presented above.

**Supplemental Analyses of Quadratic Effects**

Given the high multicollinearity between given support and received support at the between-persons level, we examined potential quadratic effects of given support and received support that may provide an alternative account for the level-2 interaction. Two models were tested in which first given support and then received support served as predictors. In the first model, self-reassurance was predicted by the level-1 daily deviation in given support, the level-2 mean weekly level of given support, and the squared value of the level-2 weekly level of given support. The level-2 quadratic effect of given support was not significant, \( p = .09 \). In the second model, self-reassurance was predicted by the level-1 daily deviation in received support, the
level-2 mean weekly level of received support, and the squared value of the level-2 weekly level of received support. At the within-person level, there was a significant main effect for daily deviation in received support (standardized slope = .20, slope = .10, \(SE = .02, F(1, 583) = 27.49, p < .001\)). At the between-persons level, there was a significant main effect for mean weekly received support (standardized slope = .44, slope = .25, \(SE = .06, F(1,99) = 21.21, p < .001\)), and a significant quadratic effect of mean weekly received support (standardized \(b = .10, SE = .04, F(1, 99) = 6.00, p = .016\)). The quadratic relationship between self-reassurance and received support was examined by computing and plotting point estimates between -1 SD and +1 SD at 0.5 SD intervals (see Figure 2). Self-reassurance and received support showed a positively accelerated curvilinear relationship that departed slightly from linearity.

**Discussion**

The present study supports and extends previous research in several ways. First, correlations and multilevel modelling revealed that between-persons differences in self-reassurance were associated with between-persons differences in received and given support. Thus, on average over the week, individuals who received more support from others and gave more support to others were more self-reassuring. This is consistent with previous cross-sectional research showing the positive association between self-reassurance/compassion and care-seeking (e.g., Irons et al., 2006; Neff & McGehee, 2010) and caregiving constructs (e.g., Crocker & Canevello, 2008; Neff & Pommier, 2012).

Second, within-person differences in self-reassurance were associated with daily deviations in received and given support. That is, individuals were more self-reassuring on days they received more support than usual and on days they gave more support than usual. To our knowledge, this is the first examination of how daily fluctuations in self-reassurance covary with
care-seeking and caregiving mentalities. Furthermore, ICC’s indicated moderate daily change in the study variables, which is consistent with the characterization of social mentalities as changing and dynamic states. Therefore, the degree to which care-seeking and caregiving mentalities are activated on a day-to-day basis are related to corresponding daily changes in self-reassurance.

Third, at the between-persons weekly level, self-reassurance was predicted by an interaction of received and given support. Individuals who were most self-reassuring were those who, on average, received more support as well as gave more support. This supports Gilbert’s (2005) theory that care-seeking and caregiving mentalities are simultaneously activated when one is being self-reassuring. Although marginally significant, individuals who were least self-reassuring were those who received low levels of support and gave high levels of support. Overall, this interaction pattern replicates previous research by Hermanto and Zuroff (2016). Unexpectedly, the interaction in the present study was evidenced only at the between-persons level of analysis but not at the within-person level. Although daily deviations in self-reassurance fluctuate according to daily deviations in received and given support, it is only when observations are averaged across the week that the interactive effect is seen. It thus appears that the more stable, trait-like patterns of care-seeking and caregiving predict the highest and lowest levels of self-reassurance. The extent to which one engages in receiving and giving support will presumably activate the corresponding social mentality and lead to a more developed and accessible mentality over time. Therefore, the repeated activation of both care-seeking and caregiving mentalities together will lead to the highest level of self-reassurance. However, the combination of a chronically activated caregiving mentality with an under-developed care-seeking mentality is linked with deficits in self-reassurance. This is consistent with the notion of
compulsive caregiving (Bowlby, 1977), which propose negative consequences for individuals who overly give care at the expense of their own needs.

It is worth noting that the correlation between received support and given support at the between-persons level was surprisingly high at .93. This raises the possibility that the two subscales are assessing the same construct, which would indicate a problematic lack of discriminant validity. However, the item content of the subscales are clearly different and there is only a moderate correlation of .53 at the within-person level. We would expect a high correlation at both levels of analysis if the two subscales were indeed assessing the same construct. Thus, we believe that the high between-persons correlation demonstrates the reciprocity of social support that has previously been reported in the literature (e.g., Bowling, Beehr, & Swader, 2005; Jou & Fukada, 2002), showing strong correlations of received and given support as high as .81 (Acitelli & Antonucci, 1994). Nonetheless, we conducted supplemental analyses to examine whether the between-persons interaction of received and given support can be accounted for by a quadratic effect. There was no quadratic effect of given support, but there was a significant quadratic effect of received support. Self-reassurance showed a curvilinear relationship with received support in the form of a slightly upwardly accelerated curve, indicating that increases in received support were especially potent in predicting increased self-reassurance at the high end of the distribution of received support. Overall, we favour the first interpretation that the interaction of received support and given support is predictive of self-reassurance rather than the quadratic effect of received support. This interaction was hypothesized based on theory (Gilbert, 2005) and replicated prior empirical findings (Hermanto & Zuroff, 2016). Furthermore, a quadratic effect emerged for received support but not for given support, which suggests that the two constructs are not identical. However, we acknowledge that future research is needed to address the
multicollinearity of received and given support at the between-persons level so as to yield an unambiguous interpretation.

Although theory suggests that self-reassurance results from the activation of underlying social mentalities (Gilbert, 2005) and our findings show self-reassurance to be associated with received and given support, we cannot draw firm conclusions about directionality and causality of effects. The present data did not indicate lagged effects; that is, the level of self-reassurance was not predicted by levels of received and given support of the previous day, or vice versa. It is plausible that increases in self-reassurance lead to a more reassuring and supportive orientation in general, including in one’s interactions with others. It is also possible that being self-reassuring leads to more acceptance for one’s difficulties and thus more openness to seek and receive support from others. Future research would benefit from using experimental methodologies (e.g., priming memories or inducing behavioural change) to clarify causal mechanisms, as well as to examine bidirectional relationships between self-reassurance, care-seeking, and caregiving.

There are several limitations of the present study. First, within-subject reliability for received and given support was marginally adequate. Future studies should aim to use longer, more reliable measures that might yield yet stronger effects. Second, the present study relied on self-report measures, which can be biased by social desirability or response sets. Future studies would benefit from using more objective indicators, such as observational data or informant reports, particularly for the interpersonal variables of received and given support. Third, the assessment period of 7 days was relatively short in duration. Future daily diary studies should aim to increase the number of assessment days, which would provide more precise estimates of within-person slopes. Lastly, our sample consisted solely of college students. We have no reason
to doubt the generalizability of social mentality theory, but it would be valuable to test in a broader range of participants, including clinical populations for which self-reassurance/compassion is a robust and important protective factor (MacBeth & Gumley, 2012).

**Conclusion and Implications**

The present study’s use of a daily diary method and multilevel modelling allowed for a more rigorous test of social mentality theory than previous studies. At both weekly between-persons and daily within-person levels, self-reassurance was positively predicted by received and given social support separately. Thus, individuals who received and gave more support than others were more self-reassuring, but it was also the case that individuals were more self-reassuring on days they received and gave more support than their usual. At the weekly between-persons level, the most self-reassuring individuals were those who received and gave high levels of support in tandem, while the least self-reassuring individuals were those who gave high levels of support but did not receive support in return. Findings are mostly consistent with social mentality theory showing that the amount of support one gives and receives, on a daily basis and averaged over time, contributes to the ability to be kind and reassuring to oneself.

Lastly, our findings suggest practical implications for cultivating self-reassurance to help deal with setbacks and failures that are an inevitable part of life. Engaging in opportunities for care-seeking and caregiving with others may promote a compassionate and kind attitude towards oneself. Over time, however, it is important to balance the degree of care-seeking and caregiving to prevent developing deficits in self-reassurance. Our findings may be particularly relevant for highly self-critical individuals who are resistant to being self-compassionate (Gilbert & Irons, 2004). For such individuals, enacting behavioural changes towards increased care-seeking and
caregiving may offer an indirect and less threatening approach towards developing self-compassion.
References for Article 2


Cutrona, C. E. (1989). Ratings of social support by adolescents and adult informants: Degree of


Table 1. Between-persons correlations (below the diagonal), within-person correlations (above the diagonal), means, standard deviations, intraclass correlations, and reliabilities

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<td>.99</td>
<td>.98</td>
<td>.98</td>
</tr>
<tr>
<td>Reliability (within)</td>
<td>.99</td>
<td>.55</td>
<td>.60</td>
</tr>
</tbody>
</table>

Note. Within-person means are defined to be 0.00. Between-persons means and all standard deviations are maximum likelihood estimates. Reliabilities are omegas computed following recommendations of Geldhof et al. (2014). ICC = intraclass correlation. *p < .01. **p < .001.
Figure 1. Relationship between self-reassurance and received social support moderated by low and high given social support (± 1 SD). Error bars represent standard errors.
Figure 2. Curvilinear relationship between self-reassurance and mean weekly level of received social support. Error bars represent standard errors.
Bridge to Article 3

Findings from Article 2 provided further support for social mentality theory (Gilbert, 2000, 2005) by demonstrating how self-compassion varies with received and given support across individuals and within individuals. At the within-person level, individuals were more self-compassionate on days they received more support than usual and gave more support than usual. At the between-persons level, the most self-compassionate individuals were those who received and gave a lot of support across the week. The least self-compassionate individuals were those who gave considerable support but did not receive support in return, consistent with the compulsive caregiving effect found in Article 1.

Although daily diary methods allow for the examination of how self-compassion fluctuates with care-seeking and caregiving over time, the correlational nature of the data precludes making firm conclusions about causality and directionality. Social mentality theory proposes care-seeking and caregiving mentalities as underlying mechanisms of self-compassion. Therefore, the objective of Article 3 was to provide a stronger test of social mentality theory by using an experimental methodology. To extend the findings of Articles 1 and 2, Article 3 examined whether activating care-seeking and caregiving mentalities would lead to changes in self-compassion. Given interaction effects found in Articles 1 and 2, Article 3 also examined individual difference variables that may moderate the effect of the interventions. Furthermore, Article 3 examined which interventions would be most beneficial in promoting self-compassion for individuals vulnerable to psychopathology.
Article 3

Experimentally enhancing self-compassion:
Moderating effects of trait care-seeking and perceived stress

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Abstract

Social mentality theory suggests that the ability to be reassuring and compassionate to oneself relies on the activation of care-seeking and caregiving mentalities. In this experimental study, college students were randomly assigned to recall memories of care-seeking, caregiving, a combination of care-seeking and caregiving, having fun (active control group), or a no-treatment control group. Participants completed the memory recall task twice per day for four days and were assessed on pre- and post-test levels of self-reassurance. Findings showed a moderating effect of individual differences in trait care-seeking and perceived stress. In response to the caregiving interventions, high care-seekers exhibited increased self-reassurance whereas low care-seekers exhibited decreased self-reassurance. In response to the care-seeking interventions, highly stressed individuals showed increased self-reassurance. Findings suggest that fostering self-compassion/reassurance can be achieved for certain individuals by activating the interpersonal processes involved in care-seeking and caregiving with others.

Keywords: Self-reassurance, self-compassion, social mentality theory, care-seeking, caregiving, stress
Experimentally enhancing self-compassion:  
Moderating effects of trait care-seeking and perceived stress

Self-reassurance and self-compassion are both terms used to describe an adaptive way of relating to oneself in the face of personal failures and shortcomings. Self-reassurance is defined as the ability to be kind, caring, and supportive towards oneself (Gilbert, Clarke, Hempel, Miles, & Irons, 2004), while self-compassion (Neff, 2003) is more broadly characterized as involving the components of being kind to oneself, viewing one’s difficulties as a shared human experience, and being mindful of one’s distress. Research on self-reassurance and self-compassion have mostly developed as separate lines of inquiry. Not surprisingly, findings have converged on the psychological benefits of having a reassuring and compassionate attitude towards the self. According to two recent meta-analyses, self-compassion is a strong predictor of psychological well-being (Zessin, Dickhäuser, & Garbade, 2015) and a robust protective factor against psychopathology (MacBeth & Gumley, 2012). Similarly, self-reassurance is related to greater positive affect and less stress (Gilbert et al., 2008) and lower levels of depressive and anxious symptomatology (Gilbert et al., 2004; Gilbert, Baldwin, Irons, Baccus, & Palmer, 2006).

Given its documented benefits, researchers and clinicians have begun to examine whether and how self-reassurance and self-compassion can be enhanced. In non-clinical populations, interventions studied so far have varied from brief experimental inductions (e.g., Leary et al., 2007) to longer-term exercises (e.g., Kelly, Zuroff, & Shapira, 2009; Shapira & Mongrain, 2010) resulting in a variety of positive outcomes, including decreased negative affect and shame, as well as reductions in depression and increases in happiness. There now exist several comprehensive interventions aimed at cultivating self-compassion and self-reassurance, including Neff and Germer’s (2013) Mindful Self-Compassion program for community participants and Gilbert’s (2009) Compassion-Focused Therapy for psychiatric patients. Both
interventions involve guided meditations and informal practices (e.g., letter writing, imagery) aimed at stimulating the ability to be kind and reassuring to the self. Preliminary results of these programs suggest that self-reassurance (Judge, Cleghorn, McEwan, & Gilbert, 2012; Lucre & Corte, 2013) and self-compassion (Neff & Germer, 2013) can be increased with training and practice.

The interventions studied to date have involved explicit instruction and training in self-compassion. To our knowledge, there is only one study that examines how self-compassion can be promoted through indirect or contextual factors. In a series of four experiments, Breines and Chen (2013) demonstrated that activating caregiving schemas, either by recalling memories of giving support or actually giving support, increased state self-compassion. Thus, findings suggest that a reassuring and compassionate attitude can be cultivated through indirect means. This is important given emerging evidence that certain individuals display considerable resistance or difficulty engaging in direct self-compassion interventions. For example, Robinson et al. (2016) showed that individuals low in trait self-compassion adopted a negative view of the self after undergoing a self-compassion induction; specifically, they characterized themselves as self-indulgent and lacking motivation and conscientiousness. Also, in a group therapy with chronic mental health patients, Gilbert and Procter (2006) observed that self-compassion work was met with fears and distress related to feelings of not deserving kindness.

Gilbert (1998, 2000) has theorized that self-compassion/reassurance relies on innate psychobiological systems, termed social mentalities, that originally evolved to guide care-seeking and caregiving with others. Analogous to behavioural systems described by Bowlby (1969/1982), the function of the care-seeking social mentality is to coordinate interactions with others who can provide support and resources necessary for survival, while the function of the
caregiving social mentality is to coordinate the provision of support and resources to others who are in need. Humans have also evolved higher-order cognitive capacities that allow for intrapersonal or “self-to-self” relating in the absence of external others. Social mentalities are thought to be activated when relating to the self in the same way they are activated when relating to others (Gilbert, 1998, 2000). Thus, when one is being self-compassionate, both care-seeking and caregiving mentalities are activated (Gilbert, 2005). The care-seeking mentality signals distress and need for care, and the caregiving mentality responds by generating and directing compassion inward.

Recent findings have provided support for Gilbert’s social mentality theory of self-reassurance/compassion. A cross-sectional study found that individuals with high trait levels of self-reassurance/compassion were those who were both high care-seekers as well as high caregivers (Hermanto & Zuroff, 2016). Similarly, a daily diary study showed that individuals who, on average across the week, gave more social support and received more social support than others were more self-reassuring (Hermanto, Zuroff, Kelly, & Leybman, 2017). Other studies have shown the link between self-compassion/reassurance and care-seeking and caregiving constructs separately. Self-compassion (Neff & McGehee, 2010) and self-reassurance (Irons, Gilbert, Baldwin, Baccus, & Palmer, 2006) are positively associated with attachment security, which suggests the willingness and ability to seek care from others. In terms of caregiving constructs, self-compassionate individuals endorse greater compassionate motivation toward their roommate (Crocker & Canevello, 2008) and greater concern for others in general (Neff & Pommier, 2012), and are perceived by their romantic partners to be more caring (Neff & Beretvas, 2012). Additionally, recalling memories of giving support or actually giving support to others can increase state self-compassion (Breines & Chen, 2013).
With the exception of the experimental study by Breines and Chen (2013), previous findings were correlational and do not permit conclusions about causality. There is also a lack of experimental studies that examine the contextual factors that promote self-compassion. Social mentality theory suggests that self-compassion arises from the activation of care-seeking and caregiving mentalities. Thus, the objective of the current study is to extend the findings of Breines and Chen (2013) in the context of social mentality theory. In the current study, participants’ levels of self-reassurance were assessed at pre- and post-intervention. An experimental methodology similar to Breines and Chen’s was used involving a memory recall and writing task intended to activate the following social mentalities: 1) caregiving (adapted from Breines and Chen); 2) care-seeking (novel condition); 3) combination of caregiving and care-seeking (novel condition); 4) having fun (active control group adapted from Breines and Chen); and 5) no-treatment control group (novel condition). We hoped to induce relatively enduring changes in self-reassurance rather than fleeting state changes as examined by Breines and Chen. Thus, participants completed the memory recall task twice per day across four days rather than a one-time manipulation. Lastly, we were interested in understanding for whom the interventions would be beneficial. Therefore, we examined individual differences in care-seeking, caregiving, and perceived stress as potential moderators.

We formulated a series of hypotheses based on theory and empirical findings. First, we expected the active conditions (care-seeking, caregiving, and combination) to increase self-reassurance more compared to the control conditions (having fun and no-treatment control). Second, we hypothesized that individual differences in trait care-seeking and caregiving would moderate the effect of condition. Social mentality theory (Gilbert, 2005) and empirical findings (Hermanto et al., 2017; Hermanto & Zuroff, 2016) suggest that the simultaneous activation of
both care-seeking and caregiving mentalities facilitates self-reassurance. Thus, we hypothesized that the match of an individuals’ level of trait care-seeking or caregiving with a complementary intervention type would lead to greater levels of self-reassurance. Specifically, we expected high care-seekers in the caregiving conditions to exhibit greater self-reassurance compared to conditions without a caregiving component. Similarly, we expected high caregivers in the care-seeking conditions to exhibit greater self-reassurance compared to conditions without a care-seeking component. Previous findings demonstrated deficits in self-reassurance to be predicted by the combination of low care-seeking and high caregiving (Hermanto et al., 2017, Hermanto & Zuroff, 2016). Thus, we expected low care-seekers in the caregiving conditions to exhibit decreased self-reassurance compared to conditions without a caregiving component. Lastly, we were interested in examining whether the interventions might be beneficial for individuals vulnerable to psychopathology. We used perceived stress as an indicator of vulnerability given the strong positive correlations between stress and depression and anxiety in college students (Roberti, Harrington, & Storch, 2006). When dealing with difficult life circumstances, self-reassurance may serve as a coping strategy to promote resilience. Therefore, we sought to determine which interventions were effective for highly stressed individuals. We did not have specific hypotheses about the pattern of effects given the exploratory nature of this final research objective.

Method

Participants

Participants were recruited through advertisements posted online on the university classifieds webpage, Facebook, and flyers posted around campus. Participants were required to be students of the university who were 18 years or older and fluent in written English. One-
hundred and eighty-six participants began the study. Five participants (2.7%) did not complete the post-test measures and were eliminated. Thirteen participants (7.0%) failed at least one of three attention check items embedded in the self-report measures and were omitted to eliminate possible sources of random responding. The final sample consisted of 168 participants (41 men, 127 women) with a mean age of 20.9 (SD = 3.28). Participants’ ethnicities were varied, including Caucasian (47.2%), Chinese (21.6%), South Asian (7.8%), Southeast Asian (6.0%), Korean (4.8%), Black (4.2%), Latin American (3.6%), Arab (1.8%), West Asian (1.8%), and Aboriginal (1.2%).

**Procedure**

The study took place over six days. On Day 1, participants came into the laboratory in groups of up to four and completed self-report measures of self-reassurance, stress, and trait care-seeking and caregiving while seated at individual computer stations. Then, they received an explanation from the research assistant about the experimental protocol for the next four days. To help participants adhere to the protocol, they completed an implementation intentions exercise in which they were asked to write down when and where they expected to complete the upcoming daily tasks of the study. Participants were randomly assigned by the survey software to one of the following five experimental conditions: 1) caregiving; 2) care-seeking; 3) combination of caregiving and care-seeking; 4) having fun (active control group to control for the general effects of a positive interpersonal interaction); and 5) no-treatment control group.

On Days 2, 3, 4, and 5, participants completed a memory recall writing task based on the procedure used by Breines and Chen (2013). Participants received an email at 9 a.m. and another email at 5 p.m. with the survey link to the experimental task. The survey link was accessible between 9 a.m. and 3 p.m. and between 5 p.m. and 11 p.m. Participants were encouraged to
complete the writing task on a computer. If participants were unable to do so, they were allowed to use their cell phones provided they were attentively focused on the task. Participants were shown the instructions: “On the next page, you will be asked to write about a memory of interacting with someone. It can be a recent event or something that happened long ago, but try to pick an event that best fits the instructions on the next page. Do not worry about proper spelling or grammar.” Then, participants were shown the appropriate prompt for their condition: 1) caregiving: “Think of a time when you were with someone who was upset and you gave them emotional support. By emotional support, we mean kindness, care, encouragement, reassurance or understanding”; 2) care-seeking: “Think of a time when you were upset and someone gave you emotional support”; 3) combination caregiving and care-seeking consisted of the caregiving prompt in the earlier part of the day and the care-seeking prompt in the later part of the day; 4) fun: “Think of a time when you had fun with someone”; 5) control: “You do not have to complete a writing task.” Participants were asked to remember this event as vividly as possible and provided the following questions to help guide the writing process, “What happened? Where were you? Who was there? What did you do? What did you say? What were you thinking? What were you feeling?” Participants completed the writing task in a free-form text box for the duration of at least three minutes. Because participants did the writing task repeatedly, they were asked to try to pick a different memory to write about each time.

On Day 6, participants received an email with the link to the post-test assessment of self-reassurance. They were thanked for their participation and provided information about receiving compensation in the laboratory. Participants were compensated according to their level of participation. They received $12 for the Day 1 pre-test assessment, $1 for each writing task (up to $2 daily for Days 2, 3, 4, and 5), and $10 for the Day 6 post-test assessment. Participants who
completed all portions of the study received a $5 bonus. Therefore, participants were compensated up to $35 for full completion of the study.

**Measures**

**Self-reassurance.** The ability to be kind and compassionate to oneself was assessed using the Reassured Self subscale of the Forms of Self-Criticism/Self-Reassuring Scale (FSCRS; Gilbert et al., 2004). The Reassured Self subscale consists of 8 items (e.g., “I am gentle and supportive with myself”) rated on a 5-point Likert scale ranging from 0 (not at all like me) to 4 (extremely like me). The FSCRS has demonstrated good psychometric properties (Baião, Gilbert, McEwan, & Carvalho, 2014). In our study, Cronbach’s alpha was .87 for the subscale score.

**Perceived stress.** The extent to which participants perceived life circumstances as uncontrollable and overwhelming was assessed using the Perceived Stress Scale (PSS; Cohen & Williamson, 1988). The PSS is a 10-item measure rated on a 5-point Likert scale ranging from 0 (never) to 4 (very often). Items include, “In the last week, how often have you found that you could not cope with all the things that you had to do?” and “In the last week, how often have you felt nervous and stressed?” The PSS has been shown to exhibit good psychometric properties for assessment of college student samples (Roberti et al., 2006). Cronbach’s alpha in the current study was .86.

**Trait care-seeking and caregiving.** Care-seeking and caregiving variables were derived based on procedures by Hermanto and Zuroff (2016). Hermanto and Zuroff factor analyzed conceptually relevant care-seeking and caregiving measures to create care-seeking and caregiving composite scores with good internal consistency and construct validity. Thus, the care-seeking variable in the present study comprised measures of seeking support (emotional and instrumental), receiving support (emotional and instrumental), distress disclosure, and the
inverse of fear of receiving compassion. The caregiving variable in the present study comprised measures of giving support (emotional and instrumental), compassionate love, and compassionate goals. Approximate factor scores were computed for the trait care-seeking and caregiving variables by taking the mean of the standardized scores of the constituent measures. The Cronbach’s alphas for the trait care-seeking and caregiving variables were .88 and .78 respectively. Constituent measures of trait care-seeking and caregiving are described below.

**Receiving and giving social support.** Experiences of receiving and giving social support were assessed using the 2-Way Social Support Scale (2-WSS; Shakespeare-Finch & Obst, 2011). The 2-WSS includes 20 items rated on a 6-point Likert scale ranging from 0 (*not at all*) to 5 (*always*). It consists of four factors of social support, including receiving emotional support (e.g., “When I am feeling down there is someone I can lean on”), receiving instrumental support (e.g., “There is someone who can help me fulfil my responsibilities when I am unable”), giving emotional support (e.g., “I give others a sense of comfort in times of need”), and giving instrumental support (e.g., “I am a person others turn to for help with tasks”). The four subscales have been shown to have moderate to high internal reliability and good convergent validity (Shakespeare-Finch & Obst, 2011). In the present study, Cronbach’s alphas were .93 for receiving emotional support, .70 for receiving instrumental support, .85 for giving emotional support, and .78 for giving instrumental support. Subscale scores for receiving emotional and instrumental support contributed to the care-seeking variable, and subscale scores for giving emotional and instrumental support contributed to the caregiving variable.

**Compassionate love.** Compassionate love for others (i.e., strangers and humanity) was assessed using the Compassionate Love Scale (CLS; Sprecher & Fehr, 2005). The CLS is a 21-item questionnaire rated on a seven-point Likert scale ranging from 1 (*not at all true of me*) to 7
very true of me). Items include “I very much wish to be kind and good to fellow human beings” and “I often have tender feelings toward people when they seem to be in need.” The CLS has been found to have good convergent and discriminant validity (Sprecher & Fehr, 2005). Cronbach’s alpha for the CLS in our study was .94. The CLS total score contributed to the caregiving variable.

**Compassionate goals.** The motivation to support and benefit close others was assessed using the Compassionate Goals subscale of the Compassionate and Self-Image Goals Scale (CSIG; Crocker & Canevello, 2008). Items begin with the phrase, “In the past week, in the area of friendships, how much did you want to or try to…” The subscale consists of seven items (e.g., “make a positive difference in someone else’s life”) rated on a 5-point Likert scale ranging from 1 (not at all) to 5 (extremely). In the present study, Cronbach’s alpha was .76 for the subscale. The subscale score for compassionate goals contributed to the caregiving variable.

**Distress disclosure.** The tendency to disclose one’s personal distress was measured using the Distress Disclosure Index (DDI; Kahn & Hessling, 2001). The DDI is a 12-item questionnaire rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Items on the DDI include, “I try to find people to talk with about my problems” and “When I feel upset I usually confide in my friends.” The DDI has been shown to exhibit good internal consistency, test-retest reliability, and criterion-related and construct validity (for a review, see Kahn, Hucke, Bradley, Glinski, & Malak, 2012). Cronbach’s alpha in the current study was .95. The DDI total score contributed to the care-seeking variable.

**Support-seeking.** The tendency to seek social support during difficult times was assessed using the Emotional Support-Seeking subscale (e.g., “If I am depressed I know who I can call to help me feel better”) and the Instrumental Support-Seeking subscale (e.g., “Information I get
from others has often helped me deal with my problems”) of the Proactive Coping Inventory (PCI; Greenglass, Schwarzer, & Taubert, 1999). The Emotional Support-Seeking subscale is comprised of five items and the Instrumental Support-Seeking subscale is comprised of eight items. Items are scored on a 4-point Likert scale ranging from 1 (not at all true) to 4 (completely true). The PCI has demonstrated good psychometric properties (e.g., Greenglass, 2002). In the present study, Cronbach’s alpha was .85 for both subscales. Subscale scores for seeking emotional and instrumental support contributed to the care-seeking variable.

**Fear of receiving compassion.** Fear of receiving compassion from others was assessed using the corresponding subscale of the Fears of Compassion Scales (FOCS; Gilbert, McEwan, Matos, & Rivis, 2011). The FOCS subscale consists of 13 items (e.g., “If someone is being kind and caring towards me, I put up a barrier”) rated on a 5-point Likert scale ranging from 0 (don’t agree at all) to 4 (completely agree). In the present study, the subscale demonstrated good internal consistency with Cronbach’s alpha of .90. The inverse score for fear of receiving compassion contributed to the care-seeking variable.

**Results**

**Descriptive Statistics**

Means, standard deviations, and correlations are presented in Table 1. As expected, self-reassurance correlated positively with care-seeking and negatively with stress; however, there was no relationship between self-reassurance and caregiving. There was a moderate positive association between care-seeking and caregiving as previously documented (Hermanto & Zuroff, 2016). Additionally, care-seeking was negatively related to stress, while caregiving was unrelated to stress.
Table 2 presents means and SD’s, separately for the five conditions, for baseline self-reassurance, trait care-seeking and caregiving, stress, as well as adherence to the intervention (i.e., a count of completed writing tasks up to maximum of eight). To test for equality of means across conditions, we conducted separate analyses of variance (ANOVA) for each of these variables (see Table 2). There were no significant differences between the conditions on baseline self-reassurance, trait care-seeking, stress, and adherence; thus, these variables do not confound our primary analyses. There was a difference across conditions for trait caregiving. Tukey’s tests indicated marginally greater trait caregiving in the caregiving condition compared to the control condition, $p = .06$. To account for this difference in our primary analyses, we included caregiving as a covariate in the final model. Results of the final model remained unchanged with or without the inclusion of caregiving as a covariate.

**Analytic Strategy**

We conducted analysis of covariance (ANCOVA) to examine residual change in post-test self-reassurance by adjusting for baseline self-reassurance scores. In all models described below, post-test self-reassurance served as the outcome variable. Our first set of analyses examined whether there was a main effect of condition on post-test self-reassurance. Our second set of analyses examined whether individual differences in trait care-seeking, trait caregiving, and perceived stress moderated the effect of condition on post-test self-reassurance. All continuous predictors were standardized to facilitate interpretation of results.

The general assumptions for linear models (i.e., linearity, homoscedasticity, independence, and normality of the error distribution) and specific assumptions for ANCOVA (i.e., homogeneity of regression slopes) were met.

**Main Effect of Condition**
Predictors in the model were pre-test self-reassurance and condition. There was no main effect of condition, $F(4, 162) = 0.18, p = .95$, indicating that post-test self-reassurance scores did not differ across conditions. Therefore, results do not support our hypothesis that the active conditions (care-seeking, caregiving, and combination) would lead to increased self-reassurance compared to the control conditions.

**Effect of Condition Moderated by Trait Care-Seeking and Caregiving**

Predictors in the model were pre-test self-reassurance, condition, care-seeking, caregiving, condition x care-seeking interaction, and condition x caregiving interaction. There was a moderating effect of care-seeking on condition in predicting post-test self-reassurance, $F(4, 152) = 2.67, p = .03$, $\text{partial } \omega^2 = .038$. There was no moderating effect of caregiving on condition, $F(4, 152) = 0.44, p = .78$.

**Effect of Condition Moderated by Stress**

Predictors in the model were pre-test self-reassurance, condition, stress, and the condition x stress interaction. There was a moderating effect of condition x stress in predicting post-test self-reassurance, $F(4, 157) = 3.10, p = .02$, $\text{partial } \omega^2 = .048$.

**Final Model with Both Moderating Effects**

Prior models indicated separate moderating effects of condition by care-seeking and of condition by stress. To conduct a more stringent test in our final model, we included both moderating effects in predicting post-test self-reassurance. Predictors in the final model were pre-test self-reassurance, condition, care-seeking, stress, condition x care-seeking interaction, and condition x stress interaction. The overall model was significant, $R^2 = .754$, $F(15,152) = 31.08, p < .001$. 
Trait care-seeking interacted with condition to predict post-test self-reassurance, $F(4,152) = 3.11, p = .02$, partial $\omega^2 = .048$. A series of post-hoc comparisons were conducted to examine the nature of the interaction. First, we examined differences in self-reassurance scores within each condition at low ($–1\ SD$) and high ($+1\ SD$) trait care-seeking. In the caregiving condition, high care-seekers ($M = 21.68, SE = 0.84$) had greater self-reassurance than low care-seekers ($M = 17.03, SE = 0.97$), $t(152) = 3.33, p = .001, d = .54$. Similarly, high care-seekers ($M = 21.62, SE = 0.81$) had greater self-reassurance than low care-seekers ($M = 18.28, SE = 0.90$) in the combination condition, $t(152) = 2.48, p = .014, d = .40$. There were no significant differences in self-reassurance between high and low care-seekers within the other conditions.

The moderating effect of trait care-seeking was evident in the two conditions with a caregiving component (i.e., the caregiving and combined conditions) and was not evident in the other three conditions without a caregiving component (i.e., the care-seeking, fun, and control conditions). Thus, as a next step in probing the interaction, we computed contrasts to test differences between the mean of the two caregiving conditions versus the mean of the three other conditions at low ($–1\ SD$) and high ($+1\ SD$) trait care-seeking (see Figure 1). High care-seeking individuals in the caregiving conditions ($M = 21.65, SE = 0.59$) had greater self-reassurance than their high care-seeking peers in the other conditions ($M = 19.91, SE = 0.48$), $t(152) = 2.32, p = .02, d = .38$. Conversely, low care-seeking individuals in the caregiving conditions ($M = 17.65, SE = 0.67$) had lower self-reassurance than their low care-seeking peers in the other conditions ($M = 19.57, SE = 0.44$), $t(152) = 2.44, p = .02, d = .40$. Finally, within the caregiving conditions, high care-seekers had greater self-reassurance than low care-seekers, $t(152) = 4.07, p < .001, d = .66$. Within the other conditions, there was no difference between high care-seekers and low care-seekers, $p = .61$. Overall, results suggest that interventions with a caregiving component led...
to greater self-reassurance for high care-seekers and decreased self-reassurance for low care-seekers compared to the other conditions. Results support our hypothesis about the moderating effect of trait care-seeking on condition, but did not support our hypothesis about the moderating effect of trait caregiving on condition.

Baseline level of stress interacted with condition to predict post-test self-reassurance, $F(4,152) = 3.25, p = .01$, partial $\omega^2 = .051$. A series of post-hoc comparisons were conducted to examine the nature of the interaction. First, we examined differences in self-reassurance scores within each condition at low ($-1 SD$) and high ($+1 SD$) baseline stress. In the combination caregiving and care-seeking condition, high stress individuals ($M = 21.18, SE = 0.83$) had greater self-reassurance than low stress individuals ($M = 18.72, SE = 0.77$), $t(152) = 2.04, p = .043, d = .33$. Similarly, high stress individuals ($M = 21.16, SE = 0.86$) had marginally greater self-reassurance than low stress individuals ($M = 18.93, SE = 0.79$) in the care-seeking condition, $t(152) = 1.84, p = .068, d = .30$. There were no significant differences in self-reassurance between high and low stress individuals within the other conditions.

The moderating effect of stress was evident in the two conditions with a care-seeking component (i.e., the care-seeking and combined conditions) and was not evident in the other three conditions without a care-seeking component (i.e., the caregiving, fun, and control conditions). Thus, as a next step in probing the interaction, we conducted contrasts to test differences between the mean of the two care-seeking conditions versus the mean of the three other conditions at low ($-1 SD$) and high ($+1 SD$) stress (see Figure 2). High stress individuals in the care-seeking conditions ($M = 21.17, SE = 0.61$) had greater self-reassurance than their high stress peers in the other conditions ($M = 19.10, SE = 0.47$), $t(152) = 2.82, p = .005, d = .46$. There was no difference in self-reassurance for low stressed individuals in the care-seeking
conditions versus the other conditions, $p = .13$. Within the care-seeking conditions, high stress individuals ($M = 21.17, SE = 0.61$) had greater self-reassurance than low stress individuals, ($M = 18.83, SE = 0.57$), $t(152) = 2.61, p = .01, d = .42$. Within the other conditions, there was no difference between high stress individuals and low stress individuals, $p = .28$. Overall, results suggest that interventions with a care-seeking component led to greater self-reassurance for high stress individuals.

As a supplementary analysis, we conducted repeated measures ANOVA and arrived at the same conclusions as above. Additionally, we included gender and ethnicity as predictors in our final model. There were no main effects or moderating effects of gender and ethnicity.

**Discussion**

The present study sought to examine whether the activation of care-seeking and caregiving social mentalities would lead to increased self-reassurance. Overall, results demonstrated that recalling memories of care-seeking and caregiving with others influences the ability to be reassuring to the self, albeit in a complex way with multiple moderating influences. Contrary to our primary hypothesis, there was no main effect of condition, indicating there were no differences in self-reassurance between the active conditions (care-seeking, caregiving, and combination care-seeking and caregiving) and the control conditions (having fun and no-treatment). However, the overall null finding masked the moderating effect of key individual differences. Results showed that certain interventions were beneficial for certain individuals leading to increased self-reassurance and were detrimental to other individuals leading to decreased self-reassurance.

Consistent with our first moderation hypothesis, the caregiving conditions led to increased self-reassurance for individuals high on trait care-seeking compared to the other
conditions. In other words, high care-seekers who over the course of four days repeatedly recalled memories of caregiving had greater self-reassurance compared to their high care-seeking peers who recalled memories unrelated to caregiving. Thus, a caregiving intervention was particularly beneficial for those who were already high care-seekers. Bowlby (1988) suggested that it is only when one’s own attachment (or care-seeking) needs are met that one can engage in caregiving with others. By virtue of scoring high on trait care-seeking, these individuals are presumably activating their care-seeking mentalities on a regular basis. As a result of the intervention, these individuals were repeatedly activating their complementary caregiving mentalities, which led to increased self-reassurance. This finding is consistent with social mentality theory that suggests the simultaneous activation of both care-seeking and caregiving mentalities facilitates the ability to be compassionate to oneself.

The converse moderating effect of trait caregiving was not significant as we had hypothesized. In other words, a care-seeking intervention did not result in greater self-reassurance for those who were already high caregivers. It is possible that high caregivers may have had difficulties accessing memories of receiving care which is consistent with the notion of compassion fatigue, in which professional caregivers tend to disregard self-care when overly focusing on the needs of their patients (Figley, 2002). It is also important to note that the combination care-seeking and caregiving intervention did not lead to increased self-reassurance as hypothesized. By alternating between the care-seeking and caregiving memory recall, it is possible that the separate mentalities were not sufficiently activated to yield significant changes in self-reassurance.

Consistent with our third moderation hypothesis, low care-seekers in the caregiving interventions reported decreased self-reassurance compared to their low care-seeking peers in
interventions without a caregiving component. Thus, the caregiving interventions appeared to be detrimental to individuals low in trait care-seeking. This experimental finding is consistent with previous cross-sectional (Hermanto & Zuroff, 2016) and daily diary research (Hermanto et al., 2017) showing that a deficit in self-reassurance is predicted by the combination of low care-seeking and high caregiving. However, this is inconsistent with Breines and Chen’s (2013) findings demonstrating that recalling memories of caregiving led to increased self-compassion overall. Participants in Breines and Chen’s study did the memory recall task once, while participants in the present study did the memory recall task up to eight times over the course of four days. As a result of repeated activation of the caregiving mentality, low care-seekers in the present study may have been shifted towards a maladaptive attachment style called compulsive caregiving (Bowlby, 1977), in which giving care is emphasized over receiving it. Thus, it is important to activate care-seeking and caregiving mentalities in a balanced way to promote self-compassion.

Lastly, findings revealed another moderating effect in which recalling memories of care-seeking led to increased self-reassurance for highly stressed individuals. This is notable given the difficulty of being self-reassuring when stressed as demonstrated by the strong negative correlation between these two constructs in the present study. The stress buffering hypothesis of social support (Cohen, 1992; Cohen & Wills, 1985) suggests that social support may inhibit stress appraisals of negative events. When events are appraised as stressful, feelings of helplessness and inability to cope can arise. Recalling memories of receiving care from others may counterbalance that threat to self and serve as a reminder that one can turn to available others in times of distress. This acceptance by others may then facilitate self-acceptance, as perceived availability of social support has been shown to be positively correlated with self-
compassion (Neely, Schallert, Mohammed, Roberts, & Chen, 2009). Additionally, recalling how
others were supportive can cue similar supportive thoughts and emotions directed inward toward
the self. By definition, self-reassurance can be conceptualized as a form of self-directed kindness
and support.

Our findings have clinical implications for how to promote well-being and a more
adaptive way of relating to the self. Broadly-speaking, the present research complements
findings showing that giving and receiving compassion can lead to benefits to the self, including
enhanced self-esteem and positive mood (Sprecher & Fehr, 2006). More specifically, the present
findings indicate that recalling memories of care-seeking and caregiving can lead to increased
self-reassurance. This is consistent with imagery exercises utilized in Compassion-Focused
Therapy (Gilbert, 2009) in which clients imagine receiving compassion from an “ideal
compassionate figure” as well as imagine giving compassion while embodying the
“compassionate self.” It also echoes recent advances in virtual reality technology in which
individuals practice delivering compassion in a virtual body and then practice receiving that
compassionate response in another virtual body (Falconer et al., 2014, 2016). Akin to our
objective in the present study, the aim of these interventions is to indirectly stimulate the
capacity for self-compassion and self-kindness in order to reduce distress. This is particularly
important given that certain individuals struggle with fostering self-compassion through direct
and explicit instruction (e.g., Gilbert & Procter, 2006; Robinson et al., 2006). Perhaps recalling
memories of care-seeking and caregiving with others may be a less threatening and more
accessible way of fostering self-compassion for such individuals. However, therapists should be
attuned to individuals who have difficulties accessing positive memories of care-seeking and
caregiving or lack such memories altogether. In these cases, interactions within the therapeutic
relationship can provide opportunity for individuals to experience a model of caregiving as well as to receive and internalize care from the therapist. Furthermore, individuals can be encouraged to seek out and engage in opportunities for care-seeking and caregiving in their relationships with others. It is important, however, to balance the amount of care-seeking and caregiving to avoid developing deficits in self-reassurance.

There are several limitations of the present study. First, although we used a chronic activation approach, the 4-day duration of the intervention was short. It would be worthwhile to examine the impact of a similar intervention over a longer period of time or to examine a stronger manipulation such as having participants behaviourally care-seek and caregive with others. Second, findings indicated that trait self-reassurance was amenable to change, extending past research that primarily examined state changes (e.g., Breines and Chen, 2013; Leary et al., 2007). However, without a follow-up assessment, we do not know for how long these changes in self-reassurance persist over time. Third, participants were encouraged to focus on the memory recall tasks for the full duration of the 3 minutes each time, but these were completed outside of the laboratory setting where many factors could have impacted attention. Future studies may consider using more structured prompts so that participants receive a more standardized intervention. Fourth, we did not examine whether characteristics of the recalled care-seeking and caregiving interactions differentially predicted self-reassurance. For example, research by Schwartz & Sendor (1999) showed that helping similar others versus dissimilar others fosters increased self-confidence and self-acceptance. Additionally, autonomous motivation for helping others and for receiving help predicts increased self-esteem while controlled motivation does not (Weinstein & Ryan, 2010). Future studies should examine the aspects of care-seeking and caregiving that may facilitate or impede self-compassion to further elucidate moderating effects.
Fifth, the sample in the present study consisted entirely of college students. Future research should examine clinical populations or populations at risk of psychopathology to add to the present findings concerning perceived stress. Lastly, the study may have been underpowered to detect interaction effects that are small to moderate in magnitude. Future studies should aim to recruit larger numbers of participants to increase confidence in the robustness of the findings.

In conclusion, findings show that recalling memories of care-seeking and caregiving with others influences the capacity to be kind and caring towards oneself, but that the size and direction of such effects are strongly moderated by individual differences in trait care-seeking and perceived stress. High care-seekers exhibited increased self-reassurance in the caregiving interventions, whereas low care-seekers exhibited decreased self-reassurance in the caregiving interventions. Findings are mostly consistent with the social mentality theory of self-reassurance/compassion (Gilbert, 2005), while also demonstrating the potentially detrimental effects of priming compulsive caregiving (Bowlby, 1977). Lastly, highly stressed individuals showed increased self-reassurance as a result of the care-seeking interventions. Thus, findings of the present study suggest how to foster a compassionate and caring way of relating to oneself by activating the interpersonal processes involved in care-seeking and caregiving with others.
References for Article 3


Table 1
*Correlations and Descriptive Statistics For All Variables*

<table>
<thead>
<tr>
<th></th>
<th>Baseline self-reassurance</th>
<th>Trait care-see</th>
<th>Trait caregive</th>
<th>Perceived stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline self-reassurance</td>
<td>–</td>
<td>.47*</td>
<td>.11</td>
<td>–.62*</td>
</tr>
<tr>
<td>Trait care-see</td>
<td>–</td>
<td>–</td>
<td>.45*</td>
<td>–.33*</td>
</tr>
<tr>
<td>Trait caregive</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>.00</td>
</tr>
<tr>
<td>Perceived stress</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

Mean  | 20.23 | 0.00 | 0.00 | 18.86 |
SD     | 5.93  | 4.73 | 3.07 | 6.72  |

*Note.* Trait care-see and trait caregive are approximate factor scores computed by taking the mean of standardized scores of the constituent measures. 
* *p < .001.*
Table 2
*Means and Standard Deviations by Condition and F-tests for Equality of Means*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Caregive (n = 30)</th>
<th>Care-Seek (n = 34)</th>
<th>Combination (n = 35)</th>
<th>Fun (n = 35)</th>
<th>Control (n = 34)</th>
<th>(F)</th>
<th>(p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline self-reassurance</td>
<td>19.10 (6.07)</td>
<td>21.26 (6.36)</td>
<td>19.83 (5.27)</td>
<td>20.08 (6.80)</td>
<td>20.76 (5.09)</td>
<td>0.64</td>
<td>.63</td>
</tr>
<tr>
<td>Trait care-see</td>
<td>0.17 (4.68)</td>
<td>–1.19 (4.11)</td>
<td>0.36 (3.95)</td>
<td>0.78 (5.18)</td>
<td>–0.43 (5.59)</td>
<td>0.89</td>
<td>.47</td>
</tr>
<tr>
<td>Trait caregive</td>
<td>1.04 (2.54)</td>
<td>0.01 (3.04)</td>
<td>–0.84 (3.24)</td>
<td>0.62 (3.14)</td>
<td>–1.02 (2.95)</td>
<td>2.91</td>
<td>.02</td>
</tr>
<tr>
<td>Perceived stress</td>
<td>19.83 (7.22)</td>
<td>18.41 (6.47)</td>
<td>18.37 (6.58)</td>
<td>18.94 (6.79)</td>
<td>18.85 (6.91)</td>
<td>0.24</td>
<td>.92</td>
</tr>
<tr>
<td>Adherence</td>
<td>7.00 (1.41)</td>
<td>7.03 (1.53)</td>
<td>6.89 (1.64)</td>
<td>7.17 (0.92)</td>
<td>7.29 (1.17)</td>
<td>0.47</td>
<td>.76</td>
</tr>
</tbody>
</table>
Figure 1. Interaction of trait care-seeking and condition in predicting post-test self-reassurance while controlling for pre-test self-reassurance. Estimated values were calculated for low (−1 SD) and high (+1 SD) care-seeking within the conditions. Error bars represent standard errors.
Figure 2. Interaction of baseline stress and condition in predicting post-test self-reassurance while controlling for pre-test self-reassurance. Estimated values were calculated for low (−1 SD) and high (+1 SD) stress within the conditions. Error bars represent standard errors.
General Discussion

Research on self-compassion has grown steadily in the last two decades and findings have demonstrated the well-being benefits of being kind, compassionate, and reassuring to oneself. However, the underlying mechanisms of self-compassion are not well-understood. The overall objective of the present thesis is to test Gilbert’s (2000, 2005) social mentality theory, which posits that self-compassion relies on evolved systems of care-seeking and caregiving with others. Article 1 examined the interactive effect of care-seeking and caregiving in predicting self-compassion using a cross-sectional methodology. Article 2 examined within-person and between-persons effects of care-seeking and caregiving in predicting self-compassion using a daily diary methodology. Article 3 examined whether the activation of care-seeking and caregiving mentalities would lead to increased self-compassion using an experimental methodology. The following sections will summarize the findings from each of these studies and then will go on to discuss these results in the context of empirical literatures as well as their implications for clinical application.

Article 1 provided the first empirical support for social mentality theory by examining the combined effects of care-seeking and caregiving in predicting self-compassion. As hypothesized, the most self-compassionate individuals were those who were both high care-seekers and high caregivers. An unexpected finding was that the least self-compassionate individuals were those who were low care-seekers and high caregivers. This is consistent with Bowlby’s (1977) notion of compulsive caregiving, a maladaptive attachment style in which an individual overly provides care to others while neglecting one’s own needs. A secondary aim of this study was to determine how to assess care-seeking and caregiving social mentalities given the lack of existing measures. The care-seeking and caregiving factors derived from exploratory factor analyses of the
administered measures demonstrated good internal consistency and construct validity. The capacities for care-seeking and caregiving, although theorized as separate social mentalities (Gilbert, 2000) and behavioural systems (Bowlby, 1969/1982), were moderately positively correlated.

Article 2 examined care-seeking and caregiving social mentalities and self-compassion as changing, dynamic states by using a daily diary approach. At the between-persons level, findings replicated the interaction effect in Article 1. As hypothesized, averaged over the week, the most self-compassionate individuals were those who received high levels of social support and also gave high levels of social support. Consistent with the notion of compulsive caregiving, the least self-compassionate individuals were those who gave high levels of support but did not receive support in return. At the within-person level, self-compassion was associated with daily fluctuations in received and given support. As hypothesized, individuals were more self-compassionate on days they received more support than usual and on days they gave more support than usual. Although daily deviations in self-compassion fluctuated according to daily deviations in received and given support, there was no interaction effect at the within-person level. It is only when daily observations are averaged across the week that the interaction effect is observed. Thus, it appears that the more stable, trait-like patterns of care-seeking and caregiving predict the highest and lowest levels of self-compassion. As in Article 1, received support and given support were positively correlated at the within- and between-persons level, suggesting that social support is generally exchanged in a reciprocal fashion.

Article 3 demonstrated that the activation of care-seeking and caregiving mentalities influenced the ability to be self-compassionate, albeit in a complex way with moderating effects. At first glance and contrary to the primary hypotheses, there were no differences in self-
compassion between the active conditions (care-seeking, caregiving, and combination care-seeking and caregiving) and the control conditions. However, it was also hypothesized that certain individual differences would interact with intervention type to differentially predict self-compassion. As hypothesized, the caregiving conditions were beneficial for high care-seekers and led to increased self-compassion. Scoring high on trait care-seeking implies that such individuals activate their care-seeking mentality on a regular basis. Activating the complementary caregiving mentality by repeatedly recalling memories of caregiving in the intervention increased self-compassion. Thus, consistent with social mentality theory, self-compassion relies on the dual activation of care-seeking and caregiving mentalities. For low care-seekers, however, the caregiving conditions were detrimental and led to decreased self-compassion. In the process of repeatedly recalling memories of caregiving, low care-seekers were presumably shifted towards a compulsive caregiving style. Overall, findings replicate and extend the results of Articles 1 and 2. Furthermore, Article 3 demonstrated the care-seeking interventions to be beneficial for individuals with high levels of baseline stress. Thus, recalling memories of care-seeking with others increased self-compassion for highly stressed individuals

**Empirical Contributions to the Literature on Self-Compassion**

The findings of the current thesis are consistent with and extend the literatures on self-compassion (Neff, 2003b) and self-reassurance (Gilbert et al., 2004). First, findings are consistent with research showing positive associations between self-compassion and care-seeking (e.g., Irons et al., 2006; Neff & McGehee, 2010), and self-compassion and caregiving (e.g., Breines & Chen, 2013; Crocker & Canevello, 2008; Longe et al., 2010; Neff & Beretvas, 2012; Neff & Pommier, 2012). However, no past research had examined care-seeking and caregiving together in predicting self-compassion. The present thesis demonstrated a robust interaction effect across the three studies, such that high self-compassion was predicted by the
combination of high care-seeking and high caregiving. Overall, the present thesis demonstrated support for the social mentality theory of self-compassion, which had not previously been examined empirically.

Second, the interaction effect revealed deficits in self-compassion to be predicted by a combination of low care-seeking and high caregiving. This finding contributes to the understanding of what impedes the ability to be self-compassionate. The current literature has primarily focused on the factors that promote self-compassion. To the best of our knowledge, Article 3 is the first demonstration of a negative or iatrogenic effect of an intervention designed to increase self-compassion. The resulting decrease in self-compassion would be expected to be temporary, given the brief impact of priming manipulations. However, this finding highlights the importance of considering individual differences in trait care-seeking when considering the use of a caregiving intervention. For individuals who are low care-seekers, a caregiving intervention may impair the ability to be self-compassionate rather than enhance it.

Third, the findings of Article 2 provide a better understanding of how self-compassion naturally fluctuates within individuals over time. For the most part, the existing body of literature has conceptualized and assessed self-compassion as a stable personality trait or individual difference variable. That is, the focus has been on exploring how self-compassion varies across individuals. With the exception of a few studies specifically examining self-compassion and body image (Breines, Toole, Tu, & Chen, 2014; Kelly & Stephen, 2016), there is a lack of studies examining variability in self-compassion at the within-person level. As with any personality construct, self-compassion has both trait- and state-like characteristics (Moskowitz., Brown, & Côté, 1997). Article 2 demonstrated that care-seeking and caregiving mentalities are changing, dynamic states that meaningfully predict fluctuations in self-compassion. Individuals
were more self-compassionate on days they received more social support than usual and on days they gave more social support than usual.

Fourth, the findings of Article 3 are consistent with the literature showing that self-compassion can be trained in lab-based experiments (e.g., Leary et al., 2007) and comprehensive clinical interventions (e.g., Gilbert, 2009; Neff & Germer, 2013). Furthermore, Article 3 contributes support to the limited evidence that self-compassion can be cultivated through indirect means. Findings demonstrated that recalling memories of care-seeking and caregiving with others influenced the ability to be self-compassionate. It is consistent with research showing that self-compassion can be increased through recalling memories of support-giving (Breines & Chen, 2013), while also demonstrating the importance of considering individual difference variables in predicting the outcome of such interventions. Lastly, Article 3 provides preliminary evidence that self-compassion can be cultivated for individuals vulnerable to psychopathology. Recalling memories of care-seeking with others led to increased self-compassion for individuals enduring high levels of stress.

Theoretical Links with the Literature on Care-Seeking Constructs

The present thesis demonstrated a positive association between care-seeking and self-compassion, complementing the large body of literature demonstrating the benefits of social support. The perception that social support is available during times of stress has been consistently linked to positive psychological functioning, such as less distress (Cohen & Wills, 1985), less negative affect and greater positive affect (Finch, Okun, Pool, & Ruehlman, 1999), and lower rates of major depression (Lakey & Cronin, 2008). The benefits of perceived social support, however, do not translate to the actual receipt of support. Studies of actual support transactions have found no link between received support and psychological functioning (e.g., Finch et al., 1999) or have found received support to be related to negative outcomes,
particularly with negative mood (Bolger, Zuckerman, & Kessler, 2000; Shrout, Herman, & Bolger, 2006).

Several theories have been proposed to explain why care-seeking may not always lead to positive outcomes. Reciprocity theory (Uehara, 1995) suggests that over-benefit, defined as receiving more support than one provides, leads to distress. Receiving support is thought to trigger the motivation to restore equity and repay the support-giver. When unable to do so, recipients can begin to doubt their usefulness and status within the relationship. A daily diary study of couples (Gleason, Iida, Bolger, & Shrout, 2003) showed that individuals reported less positive affect and greater negative affect on days they received support but did not give support (over-benefit) compared to days they only gave support (under-benefit) or days they both received and gave support (reciprocity). Similarly, the threat to self-esteem model (Fisher, Nadler, Whitcher-Alagna, 1982) suggests that seeking and receiving support can undermine recipients’ experiences of self-efficacy, competence, and ability to cope.

The present thesis suggests that self-compassion is related to care-seeking broadly defined to include perceived support, tendency to seek support, and actual receipt of support. Findings do not suggest negative effects of care-seeking so defined on self-compassion. Across the three articles, high self-compassion was predicted by the combination of both high care-seeking and high caregiving. Consistent with reciprocity theory (Uehara, 1995), individuals high on both characteristics may be buffered from the negative effects of receiving high levels of care because they are also providing high levels of care to others. In Article 2, receiving more social support on a day-to-day basis predicted greater ability to be self-compassionate rather than impair it. In Article 3, highly stressed individuals exhibited increased self-compassion as a result of recalling memories of seeking and receiving care from others. Thus, findings seem to
contradict the threat to self-esteem model (Fisher et al., 1982), but self-esteem and self-compassion are distinct constructs that may be differently related to social context and behavior. Although self-esteem was not examined in the present studies, findings are consistent with suggestions that self-compassion may be a more adaptive form of self-regard without the downsides associated with the pursuit of high self-esteem (Neff, 2011). Self-esteem involves evaluating oneself against internal and external standards and is bolstered by achievement and threatened by failure. Self-compassion, on the other hand, does not rely on comparison against standards and instead focuses on kindness, acceptance, and the common experience of failure and inadequacy. Hence, it is not surprising that the receipt of support during times of need can undermine self-esteem but enhance self-compassion.

**Theoretical Links with the Literature on Caregiving Constructs**

Overall, the present thesis demonstrated a positive association between caregiving and self-compassion. Findings complement the related research literatures on the well-being benefits of prosocial behaviours, compassion for others, and support-giving. Several intervention studies have demonstrated that engaging in acts of kindness and caring towards others leads to increased happiness (Otake, Shimai, Tanaka-Matsumi, Otsui, & Fredrickson, 2006) and increased positive affect and psychological flourishing (Nelson, Layous, Cole, & Lyubomirsky, 2016), with gains maintained six months after the intervention (Mongrain, Chin, & Shapira, 2011). Similarly, Crocker and Canavello (2012) have studied the motivations people have for caregiving within two motivational perspectives they have termed “egosystem” and “ecosystem.” Caregiving in the egosystem is viewed as a means for people to satisfy their own needs and desires, although their behaviour may appear selfless. This type of caregiving is motivated by self-image goals. Caregiving in the ecosystem, on the other hand, arises out of genuine concern for others and is
motivated by compassionate goals. Although this type of caregiving often has benefits for the self, it is not the primary reason for enacting such caregiving behaviours. Two longitudinal studies of students in their first semester of college (Crocker, Canevello, Breines, & Flynn, 2010) showed that having compassionate goals predicted decreased anxiety and depression, while having self-image goals predicted increased anxiety and depression 12 weeks later. As a whole, empirical findings demonstrate that having an orientation towards helping others has positive effects for one’s own well-being.

However, the present thesis demonstrated that caregiving does not always promote self-compassion. Across the three articles, giving high levels of care to others while not seeking and receiving care in return impaired self-compassion. This echoes the maladaptive attachment style Bowlby (1977) termed compulsive caregiving. A review by Inagaki and Orehek (2017) of the social support literature suggests that giving care and support to others is beneficial when an individual freely chooses to give support (e.g., Weinstein & Ryan, 2010). Compulsive caregiving is thought to develop in the context of a child’s early experiences of being forced to care for a parental figure while stifling one’s own needs (Bowlby, 1977). Thus, compulsive caregiving likely reflects controlled motivation rather than autonomous motivation. Self-determination theory (Deci & Ryan, 2000) proposes that autonomous motivation fosters well-being while controlled motivation inhibits well-being. Therefore, individuals who feel forced to excessively care for others will likely have difficulties genuinely caring for themselves.

Findings are also consistent with the experience of caregiver burden encountered by family members serving as informal caregivers to those with chronic illness. Caregiver burden is defined as the extent to which caregiving is perceived as having an adverse effect on emotional, social, financial, and physical functioning (Adelman, Tmanova, Delgado, Dion, & Lachs, 2014).
A primary risk factor for caregiver burden is social isolation (Adelman et al., 2014) and higher caregiver burden is associated with low levels of received social support (Rodakowski, Skidmore, Rogers, & Schulz, 2012). Furthermore, individuals experiencing caregiver burden tend to neglect health-promoting self-care behaviours (Acton, 2002). An individual struggling with caregiver burden mirrors the experience of the compulsive caregiver documented in the present thesis. In both scenarios, the experience is characterized by excessively caring for others, receiving minimal care in return, and difficulties being caring towards the self.

**Clinical Implications**

Findings from the present thesis have several clinical implications. First, self-compassion can be cultivated via indirect means through the activation of care-seeking and caregiving mentalities. Existing research and interventions have mostly taken a direct and explicit approach towards fostering self-compassion (e.g., Neff & Germer, 2013; Shapira & Mongrain, 2010). This neglects the needs of individuals who face difficulty engaging in direct self-compassion interventions. In work with patients with chronic mental health issues, Gilbert and Procter (2006) found self-compassion work was met with distress related to unresolved grief of not having received compassion from others, feeling undeserving of kindness, as well as seeing self-compassion as a weakness. Similarly, Pauley and McPherson (2010) found that anxious and depressed patients were able to understand the value of self-compassion but viewed their illness as a significant barrier to being able to be self-compassionate. In general, highly self-critical patients have been found to struggle with the idea of self-compassion and with therapy work related to fostering self-compassion (Gilbert & Irons, 2004; Shahar et al., 2012). Resistance to self-compassion has also been documented in non-clinical populations. For example, Robinson et al. (2016) showed that students low in self-compassion adopted a negative view of the self after undergoing a self-compassion induction; that is, they characterized themselves as self-
indulgent, unmotivated, and lacking conscientiousness. Thus, considering the idea of being kinder to oneself can be threatening for many people. Rather than targeting self-compassion directly and meeting resistance, it may be safer and more feasible to focus on activating care-seeking and caregiving mentalities with such individuals. Findings of the present thesis suggest that self-compassion would arise naturally as a consequence. As the experience of self-compassion becomes more familiar and less threatening, direct and explicit self-compassion training can be introduced.

Second, care-seeking and caregiving social mentalities can be activated through a variety of means. Article 1 demonstrated that the stable patterns of motivations, cognitions, and behaviours related to care-seeking and caregiving predict self-compassion. Article 2 indicated that the amount of received and given social support in interactions with others predicts self-compassion. Article 3 showed that simply recalling memories of care-seeking and caregiving, without overtly engaging in such behaviours, influences self-compassion. Taken together, care-seeking and caregiving social mentalities can be activated by external stimuli in the environment as well as by internally generated stimuli. Therefore, self-compassion can likely be promoted through other indirect means, such as engaging in care-seeking and caregiving behaviours, writing a letter expressing need for care and the provision of care, or care-oriented meditative and imaginal practices. Such practices can be flexibly integrated into various psychotherapeutic orientations if a client’s lack of self-compassion is contributing to the presenting problem. For instance, the present findings suggest that behavioural activation in cognitive behavioural therapy (CBT) can be adapted to include interpersonal interactions of care-seeking and caregiving with close others. This can help the depressed client become more activated as
intended, while also enhancing the capacity for self-compassion, which is frequently an important therapeutic target in the context of depression.

Third, findings of the present thesis are consistent with and inform the principles of CFT (Gilbert et al., 2009). CFT was developed based on the premise that compassion (from others, for others, and towards oneself) can facilitate adaptive emotion regulation. In Gilbert’s (2005) tripartite model of affect regulation, there are three interacting systems that have evolved to respond to signals of threat, rewards, and affiliation, which lead to feeling threatened, excited, and soothed respectively. Activating care-seeking and caregiving mentalities in the present thesis are analogous to CFT exercises that encourage clients to receive compassion from others and provide compassion to others. These CFT exercises were designed to up-regulate the soothing system and down-regulate the threat system, thereby enabling feelings of soothing and warmth. That the present thesis shows self-compassion (i.e., soothing and warmth directed toward the self) to be an outcome of care-seeking and caregiving mentalities provides support for the utility of such CFT exercises. Findings are also consistent with emerging clinical application of immersive virtual reality. Inspired by CFT principles, Falconer et al. (2014, 2016) developed an intervention in which participants embodied an adult virtual body and delivered compassionate statements towards a crying virtual child. Then, participants embodied the child virtual body and experienced a recording of their compassionate responses delivered by the virtual adult. Results showed increased self-compassion for depressed patients (Falconer et al., 2016) and highly self-critical community adults (Falconer et al., 2014). This intervention facilitated a form of self-to-self relating that involved a caregiving and care-seeking part of the self, similar to the processes studied in the present thesis.
Fourth, findings suggest the importance for clinicians to be attuned to the interpersonal patterns that can impede self-compassion. The compulsive caregiving effect was found across the three articles in this thesis. Excessively giving care to other without seeking and receiving it in return predicts deficits in self-compassion. Before proposing care-seeking and caregiving interventions with clients, it will be crucial to first assess the extent to which these mentalities are activated across relationships and whether there is a balance between the two. Moreover, clinicians should be mindful of certain roles and identities in which caregiving is unduly prioritized, such as primary caregivers to chronically ill family members, new parents, or individuals caring for aging parents. Caregiver burden has been shown to have detrimental effects on functioning (Adelman et al., 2014) and to impair self-care behaviours (Acton, 2002). Similarly, professional caregivers such as nurses, doctors, social workers, and therapists have been shown to experience signs of psychological distress as a result of prolonged exposure to situations that demand high emotional investment in caring for clients. These negative impacts have been described under a variety of terms, including compassion fatigue, vicarious trauma, secondary traumatic stress, and burnout (Adams, Boscarino, & Figley, 2006). Self-compassion, in particular, can provide the emotional resources necessary for individuals in caregiver roles. Thus, practices that restore a balance between care-seeking and caregiving should be considered. Due to the inherently unbalanced nature of personal or professional caregiving relationships, the goal is not necessarily to increase equity or reciprocity within those relationships. However, it will be crucial to increase opportunities for receiving support outside of the caregiving relationship, such as reaching out to personal contacts or engaging in regular debriefing and supervision with colleagues. It might also be important to consider ways to reduce the intensity
of caregiving, such as sharing clinical responsibilities with colleagues and having acceptance for things one cannot change.

Fifth, Article 3 suggests implications for working with individuals vulnerable to psychopathology. Stress was used as an indicator of vulnerability given strong associations between stress and depression and anxiety (Roberti, Harrington, & Storch, 2006). Article 3 showed the care-seeking interventions were most beneficial for highly stressed individuals. Self-compassion can serve as a coping strategy to promote resilience; however, being self-compassionate in the face of stress is undoubtedly difficult. Indeed, Article 3 demonstrated a strong negative correlation between baseline levels of self-compassion and stress. Thus, using the indirect approach of cultivating self-compassion through care-seeking will be important to consider. Highly stressed individuals can be encouraged to engage in a range of care-oriented activities, including reflecting on past instances of receiving support and the current availability of support, as well as actively seeking out personal and professional help. Akin to perceived stress as an indicator of vulnerability, self-criticism has been identified as a personality vulnerability to depression (Blatt, 2004; Blatt & Zuroff, 1992). The ability to receive compassion from others has been shown to weaken the depressogenic effect of self-criticism (Hermanto et al., 2016), which further highlights the importance of using care-seeking interventions with vulnerable populations.

Lastly, findings have implications for a common factors approach to working with clients in fostering self-compassion. Interactions with the therapist within the therapeutic relationship can serve to activate the client’s care-seeking mentality. Although humans are theorized to possess innate behavioural systems for care-seeking and caregiving (Bowlby, 1969/1982; Gilbert, 2000, 2005), such mentalities need to be stimulated by early developmental experiences
so that appropriate mental representations and interpersonal scripts are learned and elaborated (Balwin, 1992; Baldwin, Keelan, Fehr, & Koh-Rangarajoo, 1996). Furthermore, mental representations are thought to be amenable to change through the corrective emotional experiences afforded in psychotherapy (Blatt, Auerbach, & Levy, 1997). Many clients, such as those who are highly self-critical or lack secure attachments, possess negative mental representations that can interfere with their ability to experience warmth and support from the therapist (Zuroff, Shahar, Blatt, Kelly, & Leybman, 2016). When working with such clients, therapists should anticipate clients’ efforts to defensively withdraw from the therapeutic relationship. Therapists should appropriately manage ruptures in the alliance with patience and persistence in order to facilitate the gradual experience of internalizing care from the therapist. Overall, conducting therapy within a validating and compassionate interpersonal context can help clients access and more fully elaborate their innate care-seeking social mentalities, which in turn, can foster self-compassion.

**Limitations and Future Research**

Despite the contributions of the present thesis to the literature, several limitations should be acknowledged. All three articles relied on self-report assessment. Exclusive use of self-report data can be limited by individual biases that may increase systematic error, including fallibility in recall of experiences and social desirability. The daily diary methodology used in Article 2 mitigated some of the retrospective bias associated with self-report assessment. Additionally, there may be issues of shared method variance in self-report measures, which may inflate associations between variables. Future research would benefit from using more objective indicators, such as observational data or informant reports, particularly for the interpersonal variables of care-seeking and caregiving.
Another notable limitation is the reliance on student samples across all three articles. Participants were undergraduate and graduate students recruited from a large university in a large Canadian city. Reflecting the population from which the samples were drawn, participants were predominantly Caucasian, female, and educated, although there was a significant proportion from other ethnic groups such as Chinese and South Asian. The homogeneity of participants limits generalizability to other populations beyond Canadian university students. Self-compassion levels have been found to differ across cultures and differences have been linked to specific cultural features (Neff, Pisitsungkagarn, & Hsieh, 2008). Furthermore, a meta-analysis revealed a small but meaningful difference between genders in that women are less self-compassionate than men (Yarnell et al., 2015). Although there is no reason to doubt the generalizability of social mentality theory, future research should endeavour to replicate findings in a broader range of participants. It would be particularly valuable to examine clinical populations or populations at risk of psychopathology for whom self-compassion is a robust and important protective factor (MacBeth & Gumley, 2012).

Social mentality theory proposes that self-compassion arises from the activation of underlying care-seeking and caregiving mentalities. The study designs used in Articles 1 and 2 preclude definitive conclusions about directionality and causality of effects. The experimental methodology used in Article 3, however, provides preliminary support that the activation of care-seeking and caregiving mentalities influences self-compassion. Aside from Article 3 and the experiments by Breines and Chen (2013), no other studies have demonstrated the interpersonal mechanisms of self-compassion. Future studies should aim to replicate the core findings to add to the limited evidence for the social mentality theory of self-compassion. It would be worthwhile to examine other manipulations of care-seeking and caregiving, such as inducing
behavioural change, to extend findings of the memory recall task used in Article 3 and by Breines and Chen (2013). Future research should also examine bidirectional relationships between self-compassion, care-seeking, and caregiving. It is plausible that being self-compassionate facilitates a more kind, supportive, and caregiving orientation towards others. It is also possible that being self-compassionate leads to more acceptance for one’s difficulties and thus more openness to seek and receive support from others. Because self-compassion was the primary outcome variable of interest, these inverse relationships were not examined.

According to social mentality theory, care-seeking and caregiving in general should facilitate self-compassion. Article 1 used a broad measure of care-seeking and caregiving. Article 2 used the more precise and narrow construct of received and given social support. In Article 3, the memory recall task allowed participants to respond in an open-ended way. However, care-seeking and caregiving are complex behavioural phenomena with particular characteristics that may differentially predict self-compassion. For example, research by Schwartz & Sendor (1999) showed that helping similar others versus dissimilar others fosters increased self-confidence and self-acceptance. Additionally, autonomous motivation for helping others and for receiving help predicts increased self-esteem while controlled motivation does not (Weinstein & Ryan, 2010). Thus, future research should examine which specific aspects of care-seeking and caregiving that most readily facilitate or impede self-compassion.

Lastly, findings inform novel opportunities for working with clients who pose resistance to direct and explicit training in self-compassion. However, the studies in the present thesis did not specifically examine individuals with difficulties with self-compassion. Past research has suggested characteristics of individuals that predict resistance to self-compassion work, such as a diagnosis of psychological disorder (Gilbert & Procter, 2006; Pauley & McPherson, 2010), high
trait self-criticism (Gilbert & Irons, 2004; Shahar et al., 2012), and low trait self-compassion (Robinson et al., 2016). Future research should endeavour to recruit participants with these characteristics, or participants who have unsuccessfully attempted a self-compassion intervention, to test the notion that activating care-seeking and caregiving mentalities offers a safer approach to cultivating self-compassion.

**Conclusion**

The present thesis provided the first program of research that systematically tested Gilbert’s (2000, 2005) social mentality theory of self-compassion. Using a range of research methodologies, the three articles offered converging evidence that self-compassion relies on the dual activation of care-seeking and caregiving social mentalities. High levels of self-compassion are predicted by high care-seeking as well as high caregiving. An unexpected finding showed deficits in self-compassion to be predicted by the combination of low care-seeking and high caregiving. Thus, findings contribute to the previously limited understanding of the underlying mechanisms and the interpersonal factors that either promote or impede self-compassion. The present thesis has implications for both theory and practice. With a fuller understanding of the underlying mechanisms, researchers and clinicians are in a better position to enhance existing self-compassion interventions or to design novel interventions that indirectly cultivate self-compassion. As we move through life, we will encounter many painful moments, personal struggles, and feelings of inadequacy. The more we are able to access our innate capacities for care-seeking, caregiving, and self-compassion in these instances, the more we will be able to fully embrace life and flourish.
General References


