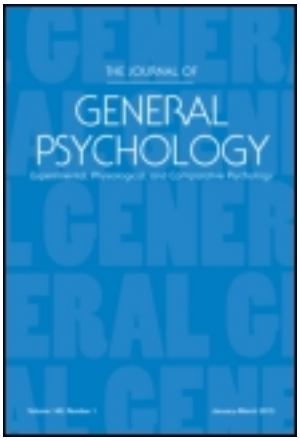
This article was downloaded by: [Andreas Wismeijer]
On: 01 April 2014, At: 12:39
Publisher: Routledge
Informa Ltd Registered in England and Wales Registered Number: 1072954
Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



The Journal of General Psychology

Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/vgen20

The Relations Between Secrecy, Rejection Sensitivity and Autonomy-Connectedness

Andreas A. J. Wismeijer [a], Marcel A. L. M. Van Assen [b] & Marrie H. J. Bekker [b]

[a] Nyenrode Business University

[b] Tilburg University

Published online: 01 Apr 2014.

To cite this article: Andreas A. J. Wismeijer , Marcel A. L. M. Van Assen & Marrie H. J. Bekker (2014) The Relations Between Secrecy, Rejection Sensitivity and Autonomy-Connectedness, The Journal of General Psychology, 141:2, 65-79, DOI: 10.1080/00221309.2013.862200

To link to this article: http://dx.doi.org/10.1080/00221309.2013.862200

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or

indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at http://www.tandfonline.com/page/terms-and-conditions

Downloaded by [Andreas Wismeijer] at 12:39 01 April 2014

The Journal of General Psychology, 2014, *141*(2), 65–79
Copyright © 2014 Taylor & Francis Group, LLC

The Relations Between Secrecy, Rejection Sensitivity and Autonomy-Connectedness

ANDREAS A. J. WISMEIJER
Nyenrode Business University

MARCEL A. L. M. VAN ASSEN
MARRIE H. J. BEKKER
Tilburg University

Downloaded by [Andreas Wismeijer] at 12:39 01 April 2014

ABSTRACT. The aim of this study was to examine the effects of two attachment-related variables on secrecy: rejection sensitivity and autonomy-connectedness. We hypothesized that rejection sensitivity is positively associated with secrecy, and autonomy-connectedness negatively with rejection sensitivity and secrecy. These hypotheses were generally corroborated in a sample of 303 university students. Moreover, we found that autonomy-connectedness at least partly explained the association between rejection sensitivity and secrecy. Self-awareness was negatively related to secrecy, suggesting that being aware of what one needs and thinks and being able to realize one's needs in social interactions reduce the tendency to keep secrets. In addition, interesting gender effects were found suggesting that men have a higher tendency to have secrets than women after controlling for the effects of autonomy-connectedness and rejection sensitivity. Our findings deepen the insight into possible reasons behind established associations between rejection sensitivity and secrecy, and may have clinical implications.

Keywords: attachment, autonomy-connectedness, secrecy, rejection sensitivity

SECRETS OCCUR IN ALL AREAS OF DAILY LIFE and abound in clinical practice (Hill, Thompson, Cogar, & Denman, 1993; Kelly, 1998). Surprisingly, to date few studies exist on possible psychological processes underlying secrecy. Keeping secrets may protect one against negative reactions from others, such as being laughed at or critically judged. Depending on how sensitive one is for rejection or one's attachment-related capacity for autonomy and connectedness (dependent on secure or insecure attachment experiences), secrecy may be a desirable behavioral strategy to adopt. The aim of this study is therefore to examine

Address correspondence to Dr. Andreas A. J. Wismeijer; a.wismeijer@nyenrode.nl (e-mail).

the effects of two attachment-related variables on secrecy: rejection sensitivity and autonomy-connectedness.

Clinical studies suggest that a large barrier exists to share secrets of an intimate or compromising nature. Hill and colleagues (1993) found that between 46% and 65% of long-term psychotherapy clients deliberately leave things undisclosed in therapy. For example, Kelly (1998) found that 40% of patients admitted they kept a secret from their therapist that was relevant for therapy. Newth and Rachman (2001) reported that patients with an obsessive-compulsive disorder are extremely reluctant to tell the therapist the content of their obsessions. Interestingly, these authors also went so far as to state that the patients' concealment of the obsessions is so obvious that is has been overlooked by clinicians: a "clinical oxymoron." These findings suggest that even in a "safe" and non-judging environment such as the clinician's office, there is a real and significant reluctance to disclose one's secrets. There is no reason to suggest that outside the clinician's practice this reluctance will be smaller. Secrecy is therefore a theme with clinical implications that nevertheless is underrepresented in the scientific and clinical literature.

Wismeijer (2011) and Wismeijer, Van Assen, Sijtsma, and Vingerhoets (2011) reviewed the psychological literature on secrecy and proposed four-core dimensions of secrecy. First, following Kelly (1998) and Kelly and Yip (2006), Wismeijer and colleagues (2011) argue that one should make a distinction between keeping secrets as the (context-independent) expression of the personality trait self-concealment (Larson & Chastain, 1990) and the possession of a major secret due to pressing situational circumstances. Empirical studies showed that these two dimensions differ in meaningful ways: self-concealment is negatively related to subjective well-being (Larson & Chastain, 1990; Wismeijer & Van Assen, 2008), but having a major secret without scoring high on self-concealment is not per se negatively related to subjective well-being (Kelly, 1998; Kelly & Yip, 2006). Wismeijer and colleagues (2011) also identified two cognitive dimensions of secrecy: cognitive preoccupation and apprehension about disclosure. Cognitive preoccupation is the degree the secret keeper (unwillingly) thinks about the secret and apprehension about disclosure entails the fear for others' discovery of the secret and the subsequent negative consequences. Together, these four dimensions represent an integrative overview of the core aspects of secrecy (Wismeijer, 2011).

Probably the most salient reason to keep secrets is of a socio-protective nature: It reduces or prevents stigmatization from others, social disapproval, and being rejected (Bok, 1989; Larson & Chastain, 1990). Rejection sensitivity is the personality trait that is characterized by the overestimation of the possibility to be rejected by others and of the emotional impact that will occur following rejection (Downey & Feldman, 1996). High rejection sensitive people generally perceive more rejection in an ambiguous situation, respond more intensely to a similar (real or perceived) rejection situation (Romero-Canyas, Downey, Berenson, Ayduk, & Kang, 2010), and are more at risk to develop depression following partner-initiated

Downloaded by [Andreas Wismeijer] at 12:39 01 April 2014

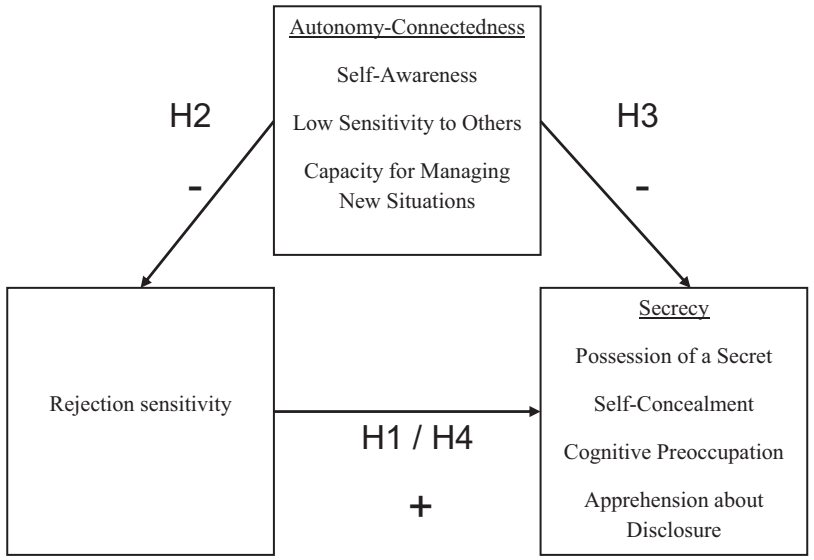


FIGURE 1. Hypothesized associations between autonomy-connectedness, rejection sensitivity, and secrecy.

Downloaded by [Andreas Wismeijer] at 12:39 01 April 2014

breakups (Ayduk, Downey, & Kim, 2001). As high-rejection sensitive individuals are more likely to perceive the risk of social exclusion as imminent, one may expect them to be reluctant with sharing personal information with others as this shared information may be a cause for later scorn, punishment, or contempt and, hence, rejection. We therefore hypothesize a positive association between rejection sensitivity and secrecy (H1). H1 is depicted in Figure 1 as an effect of rejection sensitivity on secrecy.

Rejection sensitivity, in its turn, may be affected by one's attachment experiences and the way in which one feels dependent from others. For instance, it is conceivable that the insecurely attached individual who quickly feels overruled by others and who is uncertain with how he or she fits in his or her social environment may be more sensitive to be rejected compared to securely attached individuals. Indeed, rejection sensitivity has been shown to be negatively associated with secure attachment (Downey & Feldman, 1996; Mikulincer, Shaver, Bar-On, & Ein-Dor, 2010). Instead of using the rather global secure and insecure attachment styles, we focused on the concept of autonomy-connectedness, referring to the ability of self-governance in a social context. Autonomy-connectedness is a revision of the classical autonomy concept stressing independence and is rooted in attachment theory that concerns the persistent and emotionally significant affectionate

bond that individuals form with others (Bowlby, 1982). Autonomy-connectedness is defined as "the need and capacity for self-reliance and independence, as well as the need and capacity for intimacy and functioning in intimate relationships" (Bekker, Willemse, & De Goeij, 2010, p. 243). Autonomy-connectedness consists of three components: self-awareness, sensitivity to others, and the capacity for managing new situations. Self-awareness refers to the capacity to be aware of one's own opinions, desires, and needs, and to voice these in contact with others. Sensitivity to others entails being sensitive to the opinions, wishes, and needs of other people, and includes empathy and the capacity and need for intimacy and separation. Finally, capacity for managing new situations refers to the (dis)comfort one experiences when dealing with new situations and is related to flexibility, the tendency to explore (a hallmark of secure attachment), and (in)dependence from trusted structures (Bekker & Van Assen, 2006).

Interestingly, robust and large sex differences exist in sensitivity to others (with Cohen's *d* typically larger than 0.8), with women compared to men being more sensitive to others (e.g., Bekker & Van Assen, 2006, 2008). Smaller sex differences exist in the other autonomy-connectedness components (Cohen's *d* smaller than .3), with men scoring higher on self-awareness and capacity for managing new situations (Bekker & Van Assen, 2006, 2008). These findings indicate that the sexes differ in the manifestation of their autonomy-connectedness. The sex differences in autonomy-connectedness regarding sensitivity to others agree with other sex differences reported in the literature, such as women's higher tendency to affiliation when under stress, and the female stress response tending-and-befriending instead of fight and/or flight (e.g., Taylor et al., 2000). These sex differences are usually attributed to differences in attachment experiences with the mother, biological sex differences such as oxytocin-related influences, and sex roles related factors (see Bekker & Van Assen, 2008).

Although perhaps intuitively appealing, the possible relation between autonomy-connectedness and rejection sensitivity has not yet been directly and empirically tested. We hypothesize that autonomy-connectedness is negatively associated with rejection sensitivity (H2). First, self-aware individuals are rather sure about their own opinions and are therefore expected to be less prone to rejection sensitivity (H2a: negative association between self-awareness and rejection sensitivity). Second, rejection sensitive individuals are constrained by the rigid thoughts they have about how others see them. This fear for the reactions from others may also constrain their creativity and freedom to choose an adequate solution for unexpected situations (H2b: negative association between capacity for managing new situations and rejection sensitivity). Finally, being (overly) sensitive to others also increases one's vulnerability for negative judgments and comments from others (H2c: positive association between sensitivity to others and rejection sensitivity). Previous findings seem to be in line with hypotheses H2a and H2b. For example, it has been shown that self-awareness and capacity for managing new situations are positively associated with secure attachment (Bekker, Bachrach, & Croon, 2007;

Downloaded by [Andreas Wismeijer] at 12:39 01 April 2014

Downloaded by [Andreas Wismeijer] at 12:39 01 April 2014

Bekker & Croon, 2010) and hence, in line with the earlier mentioned findings by Mikulincer and colleagues (2010), are likely to be negatively associated with rejection sensitivity.

Autonomy-connectedness may also play a pivotal role in the decision or tendency to conceal information. We hypothesize a negative association between autonomy-connectedness and secrecy (H3). More precisely, higher self-awareness involves expressing one's personal convictions and desire to others, which conflicts with the need to have secrets (H3a: negative association self-awareness and secrecy). Second, capacity for managing new situations conveys the trust that one can deal with sudden and unexpected situations flexibly, independent of the presence of trusted and familiar structures. Presumably, the more one feels at ease in new situations, the less one feels a need to "hide" or create or maintain secrets. In contrast, secrecy refers to attempts to withhold information or even to lying in order to cope with a certain situation, instead of flexibly adapting to it (Wismeijer, 2011) (H3b: negative association between capacity for managing new situations and secrecy). Finally, to the extent that sensitivity to others mirrors one's sensitivity to the opinions of others, individuals that are highly sensitive to others may be more inclined to keep secrets in order not to hurt others or be hurt by others with compromising information (H3c: positive association between sensitivity to others and secrecy).

We assume that autonomy-connectedness affects both secrecy and rejection sensitivity since attachment in general and autonomy-connectedness develop in the first interactions with significant others during infancy and childhood, and subsequently guide predictions about future interpersonal interactions and instances of possible rejection (Pietromonaco & Feldman Barrett, 2000). Consequently, if hypotheses H1 to H3 are accepted the possibility exists that the relation between rejection sensitivity and secrecy can partially or completely be explained by the effects of autonomy-connectedness on these variables. Autonomy-connectedness will then reduce or eliminate altogether the direct effect of rejection sensitivity on secrecy; that is, the effect of rejection sensitivity on secrecy may be partially or completely spurious. Our fourth set of hypotheses (H4) focuses on whether at least part of the association between rejection sensitivity and secrecy is spurious and can be explained by autonomy-connectedness. Or, alternatively, we test if there is an effect of rejection sensitivity on secrecy after controlling for the effects of autonomy-connectedness (see Figure 1).

Method

Participants and Procedure

The sample consisted of social and behavioral sciences students from a Dutch university. The participants were 305 undergraduate students (114 men, 191 women). The mean age of the sample was 21.8 years ($SD = 2.3$), with the

men ($M = 22.6$, $SD = 2.0$) being older than the women ($M = 21.40$, $SD = 2.34$) [$t(303) = 4.38$, $p < .001$]. Completing the questionnaire was one requirement for passing an obligatory course on questionnaire construction in the academic year 2010–2011. The students were told that their answers would be checked for missing, random, and copied responses. If, for whatever reasons, students did not want to fill out the questionnaire, they could pass the course by instead completing a test on the use of SPSS to analyze questionnaire data.

Measures

Rejection sensitivity was assessed using the Hurt Feelings Scale (HFS; Leary & Springer, 2001). Each item is evaluated on a 5-point rating scale (1 = not at all characteristic of me; 2 = slightly characteristic of me; 3 = moderately characteristic of me; 4 = very characteristic of me; 5 = extremely characteristic of me). Example items are "Being teased hurts my feelings" and "I take criticism well". Cronbach's α in this study was equal to .81 and Guttman's λ_2, a lesser known but better estimate of internal consistency reliability than Cronbach's α (Guttman, 1945; Sijtsma, 2009), equalled .82.

Secrecy was assessed using the Tilburg Secrecy Scale (TSS; Wismeijer, 2011) that includes four scales of five items, each assessing the secrecy components possession of a secret, self-concealment, cognitive preoccupation, and apprehension about disclosure. The items are rated on 5-point Likert scales (0 = does not apply to me; 1 = somewhat applies to me; 2 = moderately applies to me; 3 = strongly applies to me; 4 = completely applies to me) and are positively worded. Example items are: "I have an important secret that I haven't shared with anyone" (possession of a secret), "I feel uncomfortable talking about myself" (self-concealment), "I have a secret that often keeps me awake at night" (cognitive preoccupation) and "If I shared my secret with my friends, they'd like me less" (apprehension about disclosure). Cronbach's α (Guttman's λ_2 between brackets) for these subscales were .91 (.92), .84 (.84), .90 (.90), and .87 (.88), respectively.

Autonomy-connectedness was measured using the Autonomy-Connectedness Scale (ACS-30; Bekker & Van Assen, 2006). The ACS-30 consists of 30 statements that measure self-awareness (7 items), sensitivity to others (17 items), and capacity for managing new situations (6 items). Respondents indicate to what extent these statements apply to them on one of five answering categories: 1 = disagree, 2 = disagree somewhat, 3 = do not disagree/do not agree, 4 = agree somewhat and 5 = agree. Example items are "Usually it is very clear to me what I like most" (self-awareness), "I am seldom occupied with the feelings and experiences of others" (sensitivity to others), and "I quickly feel at ease in new situations" (capacity for managing new situations). Cronbach's α (Guttman's λ_2 between brackets) were .81 (.81), .81 (.81), and .79 (.79), respectively.

Downloaded by [Andreas Wismeijer] at 12:39 01 April 2014

Downloaded by [Andreas Wismeijer] at 12:39 01 April 2014

Data Analytic Strategy

Observed means, correlations and gender differences were computed using SPSS (PASW) 17.0. The hypotheses were tested using structural equation modeling (SEM), allowing for correction of measurement error and testing all effects simultaneously. Each sum score was used as the single indicator of the corresponding latent variable. The variance of the measurement error of the sum score was estimated as the variance of the scale times 1 minus the reliability of the scale (Kline, 2005, pp. 229–231). We used λ_2 as the estimate for the reliability.

We first estimated the correlations between all latent variables in a fully saturated measurement model. To test the hypothesized associations, we estimated another measurement model with second-order factor secrecy and correlations between the major constructs (autonomy-connected factors, rejection sensitivity, secrecy). Strictly speaking, this second model is not a measurement model because it includes direct effects of gender on autonomy-connectedness factors, rejection sensitivity, and secrecy, to control for the effect of gender. We nevertheless call it a measurement model, because the model contains no direct effects of our main variables. We chose to combine the four secrecy factors into one second-order factor but not the three autonomy-connected factors, for both theoretical and statistical reasons. First, it is well-known from previous research that there are large differences in one autonomy-connectedness scale (sensitivity to others) but not in another (capacity for managing new situations). Second, the descriptive analyses revealed different associations between autonomy-connectedness scales on the one hand and secrecy scales on the other hand. These two reasons indicate that the autonomy-connectedness scales should be treated separately in the analyses. Third, all four secrecy scales are similarly associated with autonomy-connectedness and rejection sensitivity, suggesting it makes sense to summarize the four scales with a second-order factor secrecy. Finally, the fit of the model with only one second-order factor for secrecy fitted substantially better than the model with two second-order factors (i.e., for secrecy and autonomy-connectedness).[1]

In our final SEM analysis, we estimated a structural model with effects of autonomy-connectedness factors on rejection sensitivity and secrecy, and rejection sensitivity on secrecy. Gender was again assumed to have an effect on all latent variables. The SEM analyses were run using IBM SPSS AMOS 19. Our fourth set of hypotheses (H4) focuses on whether at least part of the association between rejection sensitivity and secrecy can be explained by autonomy-connectedness. This is no test of mediation, but of spuriousness. Both mediation and spuriousness are causal mechanisms for explaining associations (e.g., Warner, 2013, p. 403). The difference is that mediation occurs if both predictor affects mediator and mediator affects outcome, whereas spuriousness occurs if predictor affects both mediator and outcome. Both mediation and spuriousness can be tested using the same methods. We used the joint significance method to test H4, since it has substantially

TABLE 1. Means and SD for Total Sample and Men and Women Separately

Variable	Total	Men	Women
Self-awareness**	3.68 (.70)	3.83 (.57)	3.59 (.76)
Sensitivity to others***	3.52 (.49)	3.30 (.45)	3.66 (.46)
Capacity for managing new situations	3.05 (.77)	3.14 (.73)	3.00 (.78)
Rejection sensitivity***	18.78 (4.29)	16.80 (3.98)	19.96 (4.03)
Possession of a major secret	2.01 (1.09)	2.13 (1.13)	1.94 (1.06)
Self-concealment	2.43 (.86)	2.52 (.86)	2.38 (.86)
Cognitive preoccupation	1.72 (.91)	1.73 (.88)	1.72 (.93)
Apprehension about disclosure	1.82 (.91)	1.92 (.98)	1.76 (.87)

Note. Significant results of two-tailed *t* tests for mean difference between men and women are indicated using asterisks (first column).
**p < .01. ***p < .001.

Downloaded by [Andreas Wismeijer] at 12:39 01 April 2014

more power than the better known Sobel test (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002).

Results

Preliminary Analyses

After deletion of the data of two respondents that had various missing values, complete data of 303 respondents were analyzed. Table 1 reports the means and standard deviations of all scales for both the total sample and men and women separately. Men on average scored higher on self-awareness (Cohen's $d = .35$), but lower on sensitivity to others ($d = .8$). The upper right half of Table 2 shows the correlations between the observed sum scores of the scales and their significance.

SEM Analyses

Measurement Models

The lower left half of Table 2 shows the correlations between the latent variables and their significance. Except for the last row of Table 2 the correlations are obtained from the fully saturated measurement model. The last row shows the correlations of second-order factor secrecy with the autonomy-connectedness and rejection sensitivity factors, obtained from the second measurement model with second-order factor secrecy and after controlling for gender. The second measurement model did not fit perfectly ($\chi^2_{(17)} = 49.37$, $p < .001$), but its fit indicated reasonable error of approximation (RMSEA = .079) or even a good fit (CFI = .96; GFI = .97, TLI = .92) (Byrne, 2001, pp. 82–85).

TABLE 2. Correlations Between the Variables

	SA	SO	CMNS	RS	PS	SC	CP	AP
Self-awareness	—	−.33***	.30***	−.38***	−.20***	−.27***	−.24***	−.25***
Sensitivity to others	−.40***	—	−.16**	.56***	.01	.00	.13*	.03
Capacity for managing new situations	.38***	−.19**	—	−.33***	−.11	−.23***	−.12*	−.17**
Rejection sensitivity	−.47***	.69***	−.41***	—	.12*	.17**	.18**	.14*
Possession of a major secret	−.23***	.02	−.14*	.14*	—	.29***	.66***	.78***
Self-concealment	−.32***	−.00	−.28***	.20**	.34***	—	.37***	.30***
Cognitive pre-occupation	−.28***	.16*	−.15*	.21**	.73***	.43***	—	.71***
Apprehension about disclosure	−.29***	.04	−.21**	.17***	.87***	.35***	.80***	—
Secrecy	−.33***	.10	−.21**	.27**	—	—	—	—

Note. The upper right half contains the correlations between the observed variables, the lower left the correlations between the latent variables in the measurement models.
*p < .05. **p <.01. ***p <.001

All correlations were significant, except for the correlation between sensitivity to others and secrecy. Hence, the first hypotheses were confirmed (positive association between rejection sensitivity and secrecy, $r = .27$, $p = .002$). The second hypotheses were confirmed as well; rejection sensitivity was negatively associated with self-awareness ($r = -.47$, $p < .001$) and capacity for managing new situations ($r = -.41$, $p < .001$), and positively associated with sensitivity to others ($r = .69$, $p < .001$). The third set of hypotheses was corroborated for self-awareness (negative association with secrecy, $r = -.33$, $p < .001$) and capacity for managing new situations ($r = -.21$, $p = .007$), but not for sensitivity to others ($r = .10$, $p = .16$).

Structural Model

The only difference between the structural and measurement model is that the correlations in the measurement model are replaced by direct effects. Hence the fit of both models is identical. The model explained 59% of rejection sensitivity and 14% of secrecy. Gender explained 15% of the variance of sensitivity to others, 0.9% of capacity for managing new situations, and 3.6% of self-awareness. Figure 2

Downloaded by [Andreas Wismeijer] at 12:39 01 April 2014

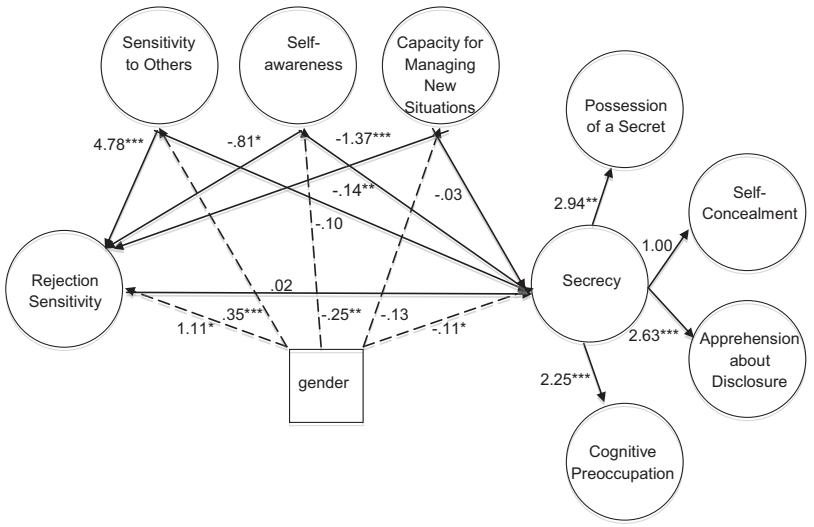


FIGURE 2. Unstandardized direct effects and their significance.

shows the estimated regression coefficients of the structural model. All autonomy-connectedness factors had an effect on rejection sensitivity, but only self-awareness had an effect on secrecy. That is, after controlling for rejection sensitivity, the effect of capacity for managing new situations on secrecy disappeared.

The fourth hypothesis focuses on whether at least part of the association between rejection sensitivity and secrecy is spurious and can be explained by autonomy-connectedness. Using the joint significance method (MacKinnon et al., 2002), an autonomy-connectedness factor explains part of the association if the effect of this component on both rejection sensitivity and secrecy is significant. Figure 2 reveals that only self-awareness explained at least part of the associations between rejection sensitivity and secrecy. After controlling for autonomy-connectedness, the effect of rejection sensitivity on secrecy is no longer significant ($b = .015$, $p = .12$), confirming that the association between rejection sensitivity and secrecy is spurious.

The effects of gender on autonomy-connected and rejection sensitivity in Figure 2 correspond with those in Table 1; women score lower on two autonomy-connectedness factors (lower self-awareness, higher sensitivity to others), and higher on rejection sensitivity. However, interestingly, the effect of gender on secrecy does not correspond. That is, gender was not associated to any of the secrecy scales (see Table 1), and gender was also not associated to the second-order factor secrecy in the second measurement model ($r = -.082$, $p = .18$).

Downloaded by [Andreas Wismeijer] at 12:39 01 April 2014

Conversely, men scored higher than women on secrecy, after controlling for the other effects in the structural model ($b = -.11$, $p = .018$). This difference in results can be explained by decomposing the total effect of gender on secrecy (i.e., the insignificant gender differences on secrecy in Table 1) into the direct effect of gender on secrecy (here negative and significant) and the indirect effects of gender via autonomy-connectedness and rejection sensitivity. Applying the joint significant method for testing mediation, there was only an indirect effect of gender on secrecy via self-awareness (here positive and significant). Hence, controlled for self-awareness, men were more secretive than women, but since men scored higher on self-awareness and self-awareness is negatively associated to secrecy, overall men and women were about equally secretive. This pattern of mediation is called inconsistent mediation (MacKinnon et al., 2002).

Downloaded by [Andreas Wismeijer] at 12:39 01 April 2014

Discussion

The aim of this study was to examine the associations between autonomy-connectedness, rejection sensitivity, and secrecy. Secrecy theory stresses the socio-protective function of secrecy, but direct empirical evidence was lacking. Our hypotheses on the associations between these variables were generally confirmed. We found that rejection sensitivity was positively related to secrecy. Autonomy-connectedness also had the predicted negative effects on rejection sensitivity, and the effects were large, as autonomy-connectedness explained more than half of the variance of rejection sensitivity. Weak to medium negative effects were found of autonomy-connectedness on secrecy, although sensitivity to others only correlated with cognitive preoccupation. The study's major finding is that the association between rejection sensitivity and secrecy is to a large extent explained by self-awareness, suggesting that self-awareness influences the perception of the quality of social interactions (rejection sensitivity) and how one deals with social interactions (secrecy).

Regarding the relations between autonomy-connectedness and secrecy, a negative association was found between self-awareness and secrecy after controlling for rejection sensitivity and gender. This suggests that being aware of what one needs and thinks and being able to realize one's needs in social interactions reduce the tendency to keep secrets. This finding corroborates earlier research, showing that self-concealment is associated with lower levels of mood labeling—i.e., the ability to understand and label what one feels (Wismeijer, van Assen, Sijtsma, & Vingerhoets, 2009). It also agrees with research findings showing positive associations of self-awareness with well-being and psychological health (e.g., Bekker & Croon, 2010; Bekker et al., 2010).

The association between sensitivity to others and rejection sensitivity was larger than the associations with the other two autonomy-connectedness components. This may suggest that although social interactions are considered a vital ingredient of healthy human functioning and belonging (Baumeister & Leary,

1995), they are a potential threat at the same time. It corroborates social pain theory (Panksepp, 1998) that suggests that humans have evolved to automatically evaluate all interaction with others in terms of potential social pain, status loss and overall social rejection (MacDonald & Leary, 1995).

Finally, an interesting gender effect was found: whereas men and women had equal levels of secrecy, after controlling for autonomy-connectedness and rejection sensitivity, we found that men had higher secrecy, since men scored higher on self-awareness, and self-awareness was negatively associated to secrecy. A possible explanation of the mediation process is that the men compared with the women may be more aware of their own desires and needs and at the same time are more at ease in expressing these to others. However, to draw firm conclusions, more research is needed on sex differences in secrecy, such as the possible role of the (expected) reactions by the (sex of the) secrets' receiver. To the best of our knowledge, this is the first study that found gender effects in secrecy. Earlier studies may not have identified this gender effect because they did not control for autonomy-connectedness and rejection sensitivity.

Our study has several limitations that warrant caution when interpreting the findings. First, the sample consisted of undergraduate students. Although autonomy-connectedness, rejection sensitivity, and secrecy affect everybody, their associations and underlying mechanisms may be different in varying populations. Second, only self-report measures were used. Including other, in particular, behavioral measures would increase the validity of our findings and be less subject to social desirability. However, it is not evident how one may assess secrecy using behavioral measures. Finally, the correlational design and SEM do not allow inferences on causality, nor can they provide justification for the sequential order of the variables in our study. We assumed that the ontogenetic development of attachment precedes that of rejection sensitivity, as the latter requires more conscious and elaborate cognitive working models on interrelationships with others (Downey, Bonica, & Rincon, 1999). Also taking into account the dominant socio-protective function of secrecy, it appears unlikely that secrecy causes rejection sensitivity or one's level of autonomy-connectedness.

Our results are the first that directly suggest a relation between attachment and secrecy. Although the client's attachment experiences play a pivotal role in clinical practice, and research suggests that secrets are far more common in clinical practice than was often assumed, the relation between both constructs has not been addressed before. The implications for the autonomy-connectedness literature and clinical practice in general are that clients with autonomy-connectedness problems and low levels of self-awareness in particular, such as clients participating in autonomy groups, may likely also have difficulties to share relevant (personal) information with others. These clients may seem very cooperative due to their, often also observed, higher levels of sensitivity to others. Given the reports of high

Downloaded by [Andreas Wismeijer] at 12:39 01 April 2014

secrecy prevalence rates in clinical settings, therapists should be aware that clients with autonomy problems may be inclined to keep relevant personal information for themselves and that special attention must be given to create a supportive environment that enables disclosure.

The implications for the secrecy literature are to go beyond rejection sensitivity as the usual (social-psychological) reason to explain the tendency to keep secrets and to focus on a more fundamental and intimate level of human functioning: attachment experiences and capacities as represented by autonomy-connectedness. Autonomy is rooted in one's basic psychological architecture and therefore extends beyond compromising situations in which one fears social rejection. Attachment affects the kind of social relations one seeks and commits to, and how one generally interacts with others. Now that we found that autonomy-connectedness is related to secrecy, the scope of situations in which secrets are usually studied (compromising contexts in which one fears or is about to be socially rejected) should be extended to include non-threatening interpersonal situations and relations. This may improve our understanding of how secrets are intertwined with and deployed in our daily life, and does justice to the complexity of secrecy as a mechanism to successfully navigate our social environment.

Downloaded by [Andreas Wismeijer] at 12:39 01 April 2014

NOTE

1. The fit indices of the model with two second-order factors were; RMSEA = .092, CFI = .932, GFI = .943, TLI = .894. We also fitted a fully saturated structural model without second-order factors to test our hypotheses. The results of this fully saturated model are essentially the same as of the model reported in our article (i.e., same conclusions), and can be obtained from the authors upon request.

AUTHOR NOTES

Andreas A. J. Wismeijer is visiting associate professor at Nyenrode Business University and lecturer at the Department of Clinical Psychology at Tilburg University. His main research topics are self-concealment, secrecy and individual differences. **Marcel A. L. M. Van Assen** is assistant professor at the Department of Methodology and Statistics, Tilburg University. His research interests include statistics, research practices, mathematical sociology, and mathematical psychology. **Marrie H. J. Bekker** holds the chair of Clinical Psychology at Tilburg University, the Netherlands. Her main research topics are autonomy, attachment and psychopathology (e.g., anxiety-, mood-, eating- and personality disorders); and mental health (care) and diversity, in particular gender and ethnicity.

REFERENCES

Ayduk, O., Downey, G., & Kim, M. (2001). Rejection sensitivity and depressive symptoms in women. *Personality and Social Psychology Bulletin*, *27*, 868–877.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*, 497–529.

Bekker, M. H. J., Bachrach, N., & Croon, M. A. (2007). The relationships of antisocial behavior with attachment styles, autonomy-connectedness, and alexithymia. *Journal of Clinical Psychology*, *63*, 507–527.

Bekker, M. H. J., & Croon, M. A. (2010). The roles of autonomy–connectedness and attachment styles in depression and anxiety. *Journal of Social and Personal Relationships*, *27*(7), 908–923

Bekker, M. H. J., Willemse, J. J. P., & Goeij, J. W. J. M. de (2010). The role of individual differences in particular autonomy-connectedness in women's and men's work-family balance. *Women & Health*, *50*(3), 241–261.

Bekker, M. H. J., & van Assen, M. A. L. M. (2006). A short form of the autonomy scale: Properties of the Autonomy-Connectedness Scale (ACS-30). *Journal of Personality Assessment*, *86*(1), 51–60.

Bekker, M. H. J., & van Assen, M. A. L. M. (2008). Autonomy-connectedness and gender. *Sex Roles*, *59*, 532–544.

Bok, S. (1989). *Secrets: On the ethics of concealment and revelation*. New York: Vintage Books.

Bowlby, J. (1982). *Attachment and loss: Vol. 1. Attachment* (2nd ed.). New York: Basic Books.

Byrne, B. M. (2001). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. Mahwah, NJ: Erlbaum.

Downey, G., Bonica, C., & Rincon, C. (1999). Rejection sensitivity and adolescent romantic relationships. In W. Furman, B. B. Brown, & C. Feirina (Eds.), *The Development of Romantic Relationships in Adolescence* (pp. 148–210). Cambridge: Cambridge University Press.

Downey, G., & Feldman, S. I. (1996). Implications of rejection sensitivity for intimate relationships. *Journal of Personality and Social Psychology*, *70*, 1327–1343.

Guttman, L. (1945). A basis for analyzing test-retest reliability. *Psychometrika*, *10*, 255–282.

Hill, C. E., Thompson, B.J., Cogar, M.C., & Denman, D.W. (1993). Beneath the surface of long-term therapy: Therapist and client report of their own and each other's convert processes. *Journal of Counseling Psychology*, *40*, 278–287.

Kelly, A. E. (1998). Client's secret keeping in outpatient therapy. *Journal of Counseling Psychology*, *45*, 50–57.

Kelly, A. E., & Yip, J. J. (2006). Is keeping a secret or being a secretive person linked to psychological symptoms? *Journal of Personality*, *74*, 1349–1369.

Kline, R. B. (2005). *Principles and practice of structural equation modelling* (2nd ed.). New York: Guilford Press.

Larson, D. G., & Chastain, R. L. (1990). Self-concealment: Conceptualization, measurement, and health implications. *Journal of Social and Clinical Psychology*, *9*, 439–455.

Leary, M. R., & Springer, C. (2001). Hurt feelings: The neglected emotion. In R. M. Kowalski (Ed.), *Aversive behaviors and relational transgressions* (pp. 151–175). Washington, DC: American Psychological Association.

MacDonald, G., & Leary, M. R. (1995). Why does social exclusion hurt? The relationship between social and physical pain. *Psychological Bulletin*, *131*, 202–223.

MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods*, *7*, 83–104.

Downloaded by [Andreas Wismeijer] at 12:39 01 April 2014

Mikulincer, M., Shaver, P. R., Bar-On, N., & Ein-Dor, T. (2010). The pushes and pulls of close relationships: Attachment insecurities and relational ambivalence. *Journal of Personality and Social Psychology*, *98*, 450–468.

Newth, S., & Rachman, S. (2001). The concealment of obsessions. *Behavior Research and Therapy*, *39*, 457–464.

Panksepp, J. (1998). *Affective neuroscience: The foundations of human and animal emotions*., London: Oxford University Press.

Pietromonaco, P. R., & Feldman Barrett, L. (2000). Attachment theory as an organizing framework: A view from different levels of analysis. *Review of General Psychology*, *4*, 107–110.

Romero-Canyas, R., Downey, G., Berenson, K., Ayduk, O., & Kang, N. J. (2010). Rejection Sensitivity and the Rejection-Hostility link in romantic relationships. *Journal of Personality*, *78*, 119–148.

Sijtsma, K. (2009). On the use, the misuse, and the very limited usefulness of Cronbach's alpha. *Psychometrika*, *74*, 107–120.

Taylor, S. E., Klein, L. C., Lewis, B. P., Gruenewald, T. L., Gurung, R. A. R., & Updegraff, J. A. (2000). Biobehavioral responses to stress in females: Tend-and-befriend, not fight-or-flight. *Psychological Review*, *107*, 411–429.

Warner, R. M. (2013). *Applied statistics. From bivariate through multivariate techniques*. London, England: Sage Publications.

Wismeijer, A. A. J. (2011). Secrets and subjective well-being: A clinical oxymoron. In I. Nyklíček, A. Vingerhoets, & M. Zeelenberg (Eds.), *Emotion regulation and well-being* (pp. 181–196). New York: Springer.

Wismeijer, A. A. J., van Assen, M. A. L. M., Sijtsma, K., & Vingerhoets, A. J. J. M. (2009). Is the negative association between self-concealment and subjective well-being mediated by mood awareness? *Journal of Clinical and Social Psychology*, *28*, 728–748.

Wismeijer, A. A. J., van Assen, M. A. L. M., Sijtsma, K., & Vingerhoets, A. J. J. M. (2011). Development and dimensionality of the Tilburg Secrecy Scale (TSS). Manuscript under review.

Wismeijer, A. A. J., & van Assen, M. A. L. M. (2008). Do neuroticism and extraversion explain the negative effect of self-concealment on subjective well-being? *Journal of Personality and Individual Differences*, *45*, 345–349.

Original manuscript received February 19, 2013
Final version accepted October 31, 2013

Downloaded by [Andreas Wismeijer] at 12:39 01 April 2014