

Accepted Manuscript

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PII: S0001-8791(17)30024-6
DOI: doi: [10.1016/j.jvb.2017.03.006](https://doi.org/10.1016/j.jvb.2017.03.006)
Reference: YJVBE 3059
To appear in: *Journal of Vocational Behavior*
Received date: 16 September 2016
Revised date: 15 February 2017
Accepted date: 16 March 2017



Please cite this article as: Sigalit Ronen, David C. Zuroff , How does secure attachment affect job performance and job promotion? The role of social-rank behaviors. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Yjvbe(2017), doi: [10.1016/j.jvb.2017.03.006](https://doi.org/10.1016/j.jvb.2017.03.006)

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**How Does Secure Attachment Affect Job Performance and Job Promotion? The Role of
Social-Rank Behaviors**

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How Does Secure Attachment Affect Job Performance and Job Promotion? The Role of Social-Rank Behaviors

Abstract

We propose and test a model in which two social rank behaviors: Dominant-leadership and coalition-building, mediate the relations between secure attachment, job performance, and job promotion. The results of survey data collected from 131 engineers at three time points spanning on twenty nine months indicate that higher secure attachment predicts more dominant-leadership and more coalition-building behaviors which in turn lead to higher job performance and job promotion. These findings contribute to understanding one important way in which secure attachment promotes job performance and job success. Our findings further indicate gender differences in dominant-leadership and coalition building behaviors. We discuss these findings as well as their practical implications and future research directions.

Key Words: Secure attachment; social-rank behaviors; job performance; job promotion

1. Introduction

There is accumulating evidence that secure attachment which represents a positive psychological strength, contributes to job performance and enables employees to work well autonomously as well as with peers (e.g., Davidovitz, Mikulincer, Shaver, Izsak, & Popper, 2007; Hazan & Shaver, 1990). Although the matter of *whether* secure attachment affects job performance has received some scholarly attention, very little remains known about *how* secure attachment affects performance (Harms, 2011). With the present study, we aim to explore the contribution of two particular social-rank behaviors in transmitting the unique effects of secure attachment on work outcomes. Specifically, we examine the role of dominant-leadership and coalition-building as mediating the effect of secure attachment on job performance and job promotion among engineers. Identifying the process by which employees' secure attachment affects their job performance has been long recognized as critical for advancing understanding of the topic (Hazan & Shaver, 1990). However, an empirical examination of such process remained scarce. More importantly, many of the studies that attempted to explain how secure attachment affects job functioning focused more on attitudes (e.g., Ronen & Baldwin, 2010; Simmons, Gooty, Nelson, & Little, 2009) and less on interpersonal behaviors in the workplace. Finally, since engineering is considered a nontraditional occupational choice for women, we predict that social rank behaviors will differ by gender. Figure 1 depicts our theoretical model.

Insert Figure 1 about here

2. Theoretical background and hypotheses development

2.1. *Secure attachment, job performance, and job promotion*

Secure attachment represents an enduring positive psychological strength originating from supportive close relationships (Griffin & Bartholomew, 1994). It is often described as an individual difference attribute that is distinguished from more broad traits by uniquely defining how people view themselves and others, what motivates them, and how they behave in

interpersonal settings (Wood & Hensler, 2010). According to Bowlby's theory (1969/1982, 1973, 1980, 1988), secure attachment makes people feel valuable and view others as helpful and dependable, thus promote an inner sense of *secure base* from which they can explore and master their environment (activities that are functionally similar to work-related activities, see Hazan & Shaver, 1990) without being concerned about unfulfilled attachment needs.

Much of the literature on adults' attachment has focused on individual differences in attachment orientations which according to Brennan, Clark, and Shaver (1998) are most appropriately conceptualized as regions in a two-dimensional space (i.e., *attachment avoidance* and *attachment anxiety*). Attachment avoidance reflects the extent to which people distrust relationship partners' goodwill and strive to maintain behavioral detachment from them. Attachment anxiety reflects the degree to which people worry that others will reject them and wish to achieve utmost proximity to them. People who score high on each or both of these two dimensions are said to be insecure or have an insecure attachment orientation. People who score low on both of these dimensions are said to be secure or have a secure attachment orientation.

Building on Bowlby's theory, Hazan and Shaver (1990) examined the relations between secure attachment and job performance. They assessed work attitudes in a large sample of adults and found that securely attached people were more satisfied with several aspects of their work including: relationships with peers, job security, income, and opportunities for advancement, and they had more positive attitudes toward work. For instance, they were less likely to procrastinate, to have difficulties completing tasks, or to fear failure or rejection from co-workers. Conversely, insecure individuals reported having concerns that interfered with their productivity, being dissatisfied with co-workers, having difficulties finishing projects, being underappreciated by peers and managers, and not being awarded with desirable promotions. Hazan and Shaver (1990) concluded that insecure attachment can significantly disrupt work performance.

More recent studies add additional support for the link between secure attachment and job performance. For example, Rom and Mikulincer (2003) collected data from 600 soldiers and

found that higher secure attachment predicted higher levels of team performance in two different samples. Similar results were found in a number of studies that looked at organizational citizenship behaviors (OCBs) at the workplace. These studies found positive relations between secure attachment and OCBs (e.g. Little, Nelson, Wallace, & Johnson, 2011) and negative relations between insecure attachment and OCBs (Desivilya, Sabag, & Ashton, 2006). Secure attachment was also found to be negatively related to counterproductive work behaviors (Little, et al., 2011). Mikulincer and Shaver (2007) contend that secure attachment promotes job performance because it makes people feel capable of taking on challenges while being confident that they will get the support of others when needed. They suggest that secure individuals' confidence and tendency to trust others and to not get easily distracted by worries about their relationships make them more effective and efficient at their jobs (Mikulincer & Shaver, 2007).

Research indicates that secure attachment might also be related to career advancement. For example, studies show that securely attached adolescents are more likely to commit to a particular career goal, are more aware of and more willing to overcome potential career-related obstacles, and they tend to aspire more to leadership positions within their field (e.g., Felsman & Blustein, 1999; O'Brien, 1996; Scott & Church, 2001). In accordance with these findings, other studies indicate that attachment insecurity is associated with indecisiveness regarding a career path and with lower satisfaction with one's career choice (Roney, Meredith, & Strong, 2004; Tokar, Withrow, Hall, & Moradi, 2003). Another line of support for the link between secure attachment and career advancement comes from studies that show that whereas secure individuals adopt promotion goals and strive to progress, develop, and change, insecure individuals tend to adopt prevention goals which restrict their pursuit of challenging goals (e.g., Elliot & Reis, 2003). Overall, we expect secure attachment to positively affect job performance and job promotion because secure attachment seems to affect the way people approach their work, the goals that they adopt, as well as their willingness and ability to put effort in their job.

Hypothesis 1a: Higher secure attachment will be related with higher job performance.

Hypothesis 1b: Higher secure attachment will be related with higher job promotion.

2.2. *The mediating role of social rank behaviors*

Socioanalytic theory (Hogan & Holland, 2003) focuses on individual differences in the attainment of social-rank and job success. The theory suggests that due to the survival value of establishing and preserving social ties and social standing, human beings have evolved the need to get along with other members of the group and to get ahead within one's group. Hogan and Holland (2003) argue that there are important individual differences in the capacity to get along with others and get ahead in a group and that these differences predict a wide range of occupational outcomes including job performance and job promotion. Recently, Zuroff et al., (2010) identified individual differences in behaviors that people use to get along and get ahead in a group and proposed the term *social-rank styles* to describe these differences. In this study, we focus on two social rank behaviors: *dominant-leadership* and *coalition-building*. Dominant-leadership focuses mainly on getting ahead and includes behaviors such as promoting one's ideas and goals, asserting one's self, making suggestions, and being dominant. Coalition-building focuses mainly on getting along and includes behaviors such as cooperating, promoting teamwork, consulting before making decisions, and seeking compromise when there are differences.

The scant literature on attachment in the work context suggests that dominant-leadership and coalition-building might play an important role in transferring the effect of secure attachment on job performance. For example, in their seminal study on leaders' functioning in the military, Davidovitz et al., (2007) found that leaders' secure attachment was associated with behaviors that convey both dominance on the one hand and support provision on the other, which in turn contributed to leaders' functioning in both task and relationship-focused situations. Their findings further indicate that leaders' attachment insecurity was associated with more self-serving and less prosocial motives to lead, failure to provide support to followers, and poor leadership performance in both task and emotion focused situations.

2.2.1. *Attachment security, dominant-leadership, and coalition-building*

Attachment theory suggests that secure attachment promotes prosocial behavior and that insecure attachment impedes healthy engagement in social participation (Mikulincer & Shaver, 2007). Bowlby (1969/1982) argued that secure individuals are more likely than insecure individuals to engage in caring, helping and supporting behaviors due to the chronic sense of satisfied attachment needs which enables them to focus their attention on the needs of others. In support of that, Mikulincer et al., (2005) found in five experiments that enhancing people's attachment security increased their altruistic and helping behaviors. Other support comes from research findings indicating that secure individuals are more capable of collaborating with others, and are more likely to volunteer and assist others in the workplace (Erez, Mikulincer, van Ijzendoorn, & Kroonenberg, 2008; Gallo, Smith, & Ruiz, 2003; Geller & Bamberger, 2009).

There is also evidence that attachment security is related with assertive and dominant behaviors, whereas attachment insecurity is related with difficulties with self-assertion and with taking personal ownership and responsibility (e.g., Collins, 1996; Haggerty, Hilsenroth, & Vala- Stewart, 2009; Zuroff et al., 2010). Other studies show that insecure adults have negative and unstable self-views, that they rely on unconstructive ways of coping with stress, and that their insecurity contributes to poor adjustment to the workplace (e.g., Krausz, Bizman, & Braslavsky, 2001; Pines, 2004). Consistent with these findings, another study found that police officers who were classified as securely attached were perceived by their followers as being more dominant and charismatic and more caring and encouraging (Popper, Mayseless, & Castelnovo, 2000). These findings are consistent with attachment theory's predictions that portray secure people as more confident and assertive, and insecure people as being indecisive and submissive and as having low self-confidence (see Mikulincer & Shaver, 2007, for a review).

2.2.2. *Social rank behaviors, job performance and job promotion*

Dominant behavior in the work context is associated with higher social rank. Studies show that people who behave dominantly come across as more competent, effective, and capable of

leading others (e.g., Lord, De Vader, & Alliger, 1986). Moreover, they are more socially accepted and have higher status and influence than less dominant people (e.g., Anderson & Kilduff, 2009b). Judge, Bono, Ilies, and Gerhardt (2002) performed a meta-analysis that aggregated data from 73 samples and concluded that people's ability to behave dominantly and assert themselves in social situations makes them appear as leaders and become more effective at what they do.

Apart from demonstrating dominance, getting ahead in one's group relies on demonstrating prosocial behaviors such as helping group members and sacrificing self-interests for the common good (Hogan & Holland, 2003). As Anderson and Kilduff (2009a) note, "individuals do not attain status by bullying and intimidating, but by behaving in ways that suggest high levels of competence, generosity, and commitment" (p. 295). Indeed, research shows that people who establish a reputation of generous exchange partners, succeeded in elevating their social status within their respective groups (Flynn, Reagans, Amanatullah, & Ames, 2006) and that people who give to the group more than they take attain higher status and acceptance (e.g., Willer, 2009). Considering this evidence and theoretical predictions, higher dominant-leadership and higher coalition-building behaviors should predict higher job performance and higher job promotion.

We expect dominant-leadership to mediate the relations between secure attachment and job performance, and between secure attachment and job promotion. Attachment theory and research indicate that secure individuals are more likely than insecure individuals to be productive at work, to demonstrate leadership skills and behave dominantly. In turn, dominant behavior, according to socioanalytic theory and research predict better prospects of succeeding and gaining access to valuable resources. This suggests the following two hypotheses:

Hypothesis 2a. Dominant-leadership will mediate the positive relations between secure attachment and job performance.

Hypothesis 2b. Dominant-leadership will mediate the positive relations between secure attachment and job promotion.

We also expect coalition-building to mediate the relations between secure attachment and job performance, and between secure attachment and job promotion. Attachment theory and research indicate that secure individuals are more likely to help and support others at work. In turn, helpful and collaborative behaviors are said to improve a person's performance and standing in the hierarchy. This suggests the following two hypotheses:

Hypothesis 3a. Coalition-building will mediate the positive relations between secure attachment and job performance.

Hypothesis 3b. Coalition-building will mediate the positive relations between secure attachment and job promotion.

2.3 Gender differences in social rank behaviors

The culture of the engineering profession is clearly identified with the masculine gender role (Hartman & Hartman, 2008). Gender roles specify assumptions and expectations about the attributes and behavior of women and men in different social settings including the workplace (Boldry, Wood, & Kashy, 2001; Eagly & Karau, 2002; Rosette & Tost, 2010, Rudman & Glick, 2001). In Western societies, women are expected to be more relationship oriented and to behave in a manner that is more communal. That is, they are expected to exhibit kindness, helpfulness, and to be supportive of others' needs (Abele, 2003; Bakan, 1966; Fiske & Stevens, 1993). Men, on the other hand, are expected to be more achievement oriented and to behave in an agentic manner. In other words, they are expected to exhibit confidence, ambition, assertiveness, decisiveness, independence, and power (Abele, 2003; Fiske & Stevens, 1993). According to Zuroff et al., (2010), the interpersonal behavior of those high in dominant-leadership is highly agentic, and the interpersonal behavior of those high in coalition-building is highly communal.

Engineering represents a non-traditional occupational choice for women as suggested in the 2012 report by the Congressional Joint Economic Committee which indicates that only fourteen percent of U.S. engineers are women (Strauss, 2015). This reality is not different in Israel where engineering is considered a male-dominated profession (Bior, 2015). In fact, women

engineers are under represented among employed engineers across the world (Burke & Mattis, 2007). This is a cause for concern both because women are not taking advantage of a lucrative, in-demand profession and because it contributes to a shortage of engineers in the field (Hartman & Hartman, 2008). Researchers have described some of the challenges faced by women in occupations or roles that are dominated by men. For example, it has been argued that women's potential for advancement at the workplace is hindered when their behavior is not congruent with their communal gender roles, but also that being perceived as too communal in a masculine environment confers risk for their positive appraisal (Eagly & Karau, 1991, 2002; Eagly et al., 1992, 1995; Rosette & Tost, 2010).

According to Phelan, Moss- Racusin, and Rudman (2008), "For women, this situation might result in a double bind that constitutes a formidable impression management dilemma" (p.406). This dilemma represents a catch- 22 for women, such that they must exhibit dominant behavior to be perceived as competent, but if they do so, they might face sanctions for displaying confidence and ambition (Phelan, Moss- Racusin, & Rudman, 2008). In fact, studies show that displaying dominance can result in gender discrimination at all stages of women's careers, including salary negotiations (Janoff-Bulmann & Wade, 1996), performance evaluations (Bolino & Turnley, 2003; Brett, Atwater, & Waldman, 2005; Eagly, et al., 1992), and promotion decisions (Heilman, Block, Martell, & Simon, 1989; Heilman et al., 2004). In a similar manner, women are expected to exhibit communal skills so that their behavior will be perceived as congruent with their female gender role. However, exhibiting communal behavior might lead to being perceived as insufficiently competent (Eagly & Karau, 2002; Rudman & Glick, 1999, 2001). Given that high dominant behavior exhibited by women might confer risk to their advancement, we expect that women engineers will report lower levels of dominant-leadership behavior than men. Also, since communal behavior may disqualify women on the basis of perceived incompetence, we expect that women engineers will report lower levels of coalition-building.

Hypothesis 4. Dominant-leadership and coalition-building will be lower among women than among men.

3. Methods

3.1. Participants and procedure

Our sample is based on students in their transition to the workforce and it involves data collected at three time points. In Time 1, we sent an electronic mail to 736 undergraduate students that were in their senior undergraduate year at the engineering faculty in one of the major universities in Israel and invited them to participate in a time-lagged study on work attitudes. The students who came from 14 different major units (civil, electronic, computer, mechanical, chemical, materials, nuclear, biomedical, biotechnology, communication systems, information system, structural, environmental, and industrial engineering) were asked to complete an online survey and to include their contact information if they were interested to participate in future surveys. Confidentiality was promised and carefully maintained throughout the study. As a token of appreciation for their contribution, participants were offered a personal feedback based on one of the measures that they completed. This measure assessed students' happiness level and was not included in this paper. Two hundred and ninety students (a 39% response rate) participated in this wave (Time 1). Two hundred and six participant were men (71%) and 84 were women (29%) and their average age was 26.14 years ($SD = 2.03$ years; range = 20.10 to 36.07 years). One hundred ninety one participants were single (66%), 87 participants were married (30%), and 12 participants were divorced (4%). Time 1 participants came from the following major units (their numbers appear in parenthesis): civil (9), electronic (27), computer (18), mechanical (14), chemical (7), materials (22), nuclear (4), biomedical (10), biotechnology (21), communication systems (50), information system (43), structural (22), environmental (7), and industrial engineering (36)). There were no significant differences in any of the assessed variables between engineers from different major groups.

We waited 15 months until Time 1 participants graduated and entered the workforce and invited them to take part in a second wave of data collection. We offered each participant a \$30 reward and an opportunity to enter a lottery for an additional cash reward. The criteria for inclusion in the second wave were a completion of the undergraduate studies, and being employed full-time in an organization for at least 3 months. One hundred and thirty-one participants met these criteria and completed an online survey in Time 2 (a 45% response rate). Ninety of them were men (69%), and 41 were women (31%), and their average age was 27.06 years ($SD = 2.15$ years; range = 21.25 to 33.25 years). Sixty two participants were single (47%), 63 participants were married (48%), 5 participants were divorced (4%), and 1 participant was a widow (1%). There were no significant differences in any of the assessed variables between engineers from different major groups or between the different occupational groups.

We planned to measure job promotion in Time 3 and therefore had to allow enough time to elapse after the second wave. Thus, 14 months later we invited the participants of Time 2 to complete a brief survey that included two questions regarding job promotion and their employment period. One hundred and seven people volunteered to participate in this wave (an 82% response rate). Seventy one participants (66%) were men and 37 were women (34%). Their average age was 28.12 years ($SD = 2.09$ years; range = 23.25 to 34.25 years). Forty two participants were single (39%), 56 participants were married (52%), 8 participants were divorced (8%), and 1 participant was a widow (1%). In waves 2 and 3 there were no participants from nuclear engineering. No other significant differences were found in the proportion of major unit distribution in.

3.2. Measures

3.2.1. *Secure attachment.* We assessed secure attachment at Time 1 and at Time 2 with a short version of the Experience in Close Relationships scale (ECR-short form; Wei, Russell, Mallinckrodt, & Vogel, 2007). Participants rated the extent to which each item described their feelings in close relationships on a 7-point scale ranging from "strongly disagree" (1) to "strongly

agree" (7). Six items tapped attachment security- (reduced) anxiety (e.g., "I do not often worry about being abandoned"), and 6 items tapped attachment security- (reduced) avoidance (e.g., "It helps to turn to close others in times of need"). All the 8 insecurity items (e.g., "I worry that others won't care about me as much as I care about them") were reverse scored so that they will refer to attachment security. An exploratory factor analysis of these items resulted in a single factor solution of secure attachment in Time 1 and in Time 2, with acceptable Cronbach's alpha reliability coefficients (see Table 1).

Insert Table 1 about here

3.2.2. *Social rank behaviors.* We assessed social rank behaviors at Time 2 with the Rank Style with Peers Questionnaire (RSPQ; Zuroff et al., 2010). The RSPQ comprises three scales: dominant-leadership, coalition-building, and ruthless self-advancement (we did not use the latter in this study). Participants were asked to rate the extent to which each item describes the way they relate to work peers on a 7-point scale ranging from "not at all like me" (1), to "very much like me" (7). Five items assessed dominant-leadership behavior (e.g., "I often promote my ideas, views, and goals"; "I often take initiative and make suggestions"), and seven items assessed coalition-building behavior (e.g., "I recognize and praise the valuable contributions of others"; "I prefer to cooperate"). In order to confirm the three-factor structure of the scale, a principal components analysis was conducted using an oblique rotation. The results yielded a robust three-factor solution with eigenvalues greater than 1 that explained 49.6% of the variance. The first factor explained 17.7% of the variance and included five items of the dominant-leadership scale. The second factor explained 16.8% of the variance and included five items of the ruthless self-advancement scale. The third factor which explained 15.1% of the variance included seven items of the coalition-building scale. Cronbach's alpha reliability coefficients were acceptable for all rank behaviors scales (see Table 1).

3.2.3. *Job Performance.* Time 2 participants evaluated their job performance on five dimensions of work performance (Podsakoff, Todor, & Skov, 1982) using a 7-point scale ranging from “very uncharacteristic of myself” (1), to “very characteristic of myself” (7). Sample items include: “I am doing more work than is required”; and “I am spending time effectively at work”. A factor analysis of these five items resulted in a single factor solution. The Cronbach’s alpha reliability coefficient was acceptable (see Table 1).

3.2.4. *Job promotion.* We measured job promotion at Time 3 using a single item measure. Participants were asked whether or not they had been promoted at their jobs during the 12 months that preceded the survey. A participant’s promotion score was marked as either “0” if he or she has not been promoted or “1 if he or she has been promoted.

3.2.5. *Control variables.* In order to rule out confounding effects, we controlled for GPA and employment period. GPA was assessed at Time 1 using a single item that asked participants to rate their average grade as senior students using a 7-grade scale calculated on the basis of 100 points ranging from "0-14" (1) to "86-100" (7). Tenure - At Time 3, participants were asked to report their employment period in the organization were they were granted a job promotion in months (if they were granted a promotion).

4. Results

Table 1 presents means, standard deviations, reliabilities, and correlations among the study variables. In support of Hypotheses 1a and 1b, higher secure attachment at Time 1 was positively correlated with job performance ($r = .34, p < .001$) and job promotion ($r = .35, p < .001$) at Time 2.

To test Hypotheses 2 to 3, we followed Anderson and Gerbing’s (1988) two-step approach. In the first step, we examined the measurement model by using confirmatory factor analysis (CFA) to estimate the loadings of the manifest indicators on their respective latent variables. We allowed all latent variables to correlate with each other in the model. Once an acceptable measurement model was established, we proceeded to the second step where we tested

the structural model. According to Preacher and Hayes (2008) “mediation models are best estimated in a SEM context because of the greater flexibility SEM programs afford in model specification and estimation options” (p.885). Additionally, as our study entertains multiple mediators, it is often more convenient, precise, and parsimonious to include all of them in the same model. Finally, unlike regression analysis, SEM explicitly models measurement error, allowing hypotheses testing using latent constructs rather than imperfect measured indicators. (Preacher & Hayes, 2008).

We used AMOS 22 (Arbuckle, 2013) to test our mediation model (see Figure 1) and assessed the goodness of fit of the measurement and structural models using three fit indices: comparative fit index (CFI; Bentler, 1990), root-mean-square error of approximation (RMSEA; Steiger & Lind, 1980), and the Tucker–Lewis index (TLI; Tucker & Lewis, 1973). These fit indices represent both absolute and alternative fit indices which refer to the reference point against which a model’s fit is assessed (Bollen, 1989; Gerbing & Anderson, 1993; Hu & Bentler, 1998). Absolute fit indices evaluate the fit of a model in reference to perfect fit. By contrast, relative fit indices evaluate the fit of a model in reference to some baseline, such as a null model or a fully parameterized model (see Meade, Johnson, & Braddy, 2008, for a review). The commonly used χ^2 index that was developed by Satorra and Bentler (1988) is reported for reasons of completeness but was not consulted due to its sensitivity to sample sizes. CFI and TLI values greater than 0.90 represent a good model fit, and RMSEA values less than 0.07 indicate a good model fit (Arbuckle, 2008). We included the following latent constructs in the measurement model: attachment security at Time 1 and Time 2, dominant-leadership and coalition-building at Time 2, and job performance at Time 2, and set their respective variables as their indicators. The observed variables job promotion and gender, and the control variables (GPA, and employment period) were added to the structural model.

4.1. *Confirmatory factor analysis*

We conducted confirmatory factor analyses and found that the loadings of the manifest indicators on their respective latent variables were all high and statistically significant (the factor loadings are available from the authors upon request). A test of the measurement model resulted in good fit indices: $[\chi^2(658, N=131) = 859.049, p = .000, CFI = .936, RMSEA = .048, TLI = .928]$. We then analyzed the model to examine potential concerns about same-source measurement bias and compared the 5-factor model to 4 different models with 4, 3, 2, and 1 factors each. First, we compared our 5-factor model to a 4-factor model. The 4-factor model was one in which the items of the two attachment variables (Time 1 and Time 2) were loaded on a single factor and all the other items were loaded on their respective factors. Confirmatory factor analyses (CFA) revealed that the 4-factor model did not fit the data as well as the 5-factor model $[\chi^2(662, N=131) = 1102.544, p = .000, CFI = .860, RMSEA = .072, TLI = .843]$. Next, we conducted a 3-factor model CFA in which the items of the two attachment variables (Time 1 and Time 2) were loaded on a single factor, and the items of the two social rank variables (dominant-leadership and coalition-building) were loaded on another factor, and the job performance items were loaded on their respective factor. This model did not fit the data well $[\chi^2(665, N=131) = 1207.056, p = .000, CFI = .828, RMSEA = .079, TLI = .808]$. We then compared our 5-factor model to a 2-factor model in which all the attachment and social rank items loaded on one factor, and the items of job performance were loaded on another factor. This model fitted the data poorly $[\chi^2(667, N=131) = 1420.498, p = .000, CFI = .760, RMSEA = .093, TLI = .734]$ and significantly worse than the 5-factor model. Finally, a single factor model in which all the items loaded on a single factor yielded poor fit to the data $[\chi^2(668, N=131) = 1583.680, p = .000, CFI = .709, RMSEA = .103, TLI = .677]$. Collectively, these results suggest that the 5-factor model fit the data well and better than any of the 5 different models we examined. Thus, this measurement model was used to test the structural model.

4.2. *Structural model test of mediation*

Next, the fully mediated structural model (Figure 1) was tested. Contrary to our expectations, the relation between coalition-building and job promotion was not significant ($\beta = 0.02, p > .05$), we therefore removed this path from the analysis. After removing this path, the structural model demonstrated good fit [$\chi^2(737, N=131) = 999.067, p = .000, CFI = .918, RMSEA = .052, TLI = .904$].

Although the initial structural model showed a good fit to the data, we examined whether a partially mediated model, in which there was a direct path from secure attachment to job performance and from secure attachment to job promotion, fit the data better. The results indicate that the fit statistics remained stable [$\chi^2(735, N=131) = 995.447, p = .000, CFI = .919, RMSEA = .052, TLI = .905$]. The chi square difference test suggested that the partially mediated model fit the data as well as the fully mediated model [$\chi^2(2) = 3.62, p = .10$]. However, we found that the direct relations between secure attachment and job performance and between secure attachment and job promotion were not significant ($\beta = -.08, p > .05$, and $\beta = .06, p > .05$ respectively), suggesting that these relations have become insignificant in the presence of the mediating variables. Additionally, we used the Akaike Information Criterion (AIC; Akaike 1973) fit statistic to compare the two nested models. Lower AIC values indicate a better fit. The AIC was slightly lower in the fully mediated model (AIC = 1,329.07) compared to the partially mediated model (AIC = 1,331.447). Given these results, we retained the fully mediated model for hypothesis testing. Standardized direct effect path estimates for the fully mediated model as well as squared multiple correlations as indicators of explained variance are reported in Figure 2.

Insert Figure 2 about here

Our findings indicate that the relations between secure attachment at Time 1 and dominant-leadership, and between secure attachment at Time 1 and coalition-building were positive ($\beta = 0.39, p < .001$; $\beta = 0.42, p < .001$, respectively). The findings further indicate that

the relations between dominant-leadership and job performance, and between dominant-leadership and job promotion were positive ($\beta = 0.76, p < .001$; $\beta = 0.64, p < .001$, respectively), and that the relation between coalition-building and job performance was positive ($\beta = 0.34, p < .001$).

Shrout and Bolger's (2002) argue that bootstrapping methods can be extended to designs involving multiple mediation. Additionally, bootstrapping is generally superior to the multivariate product-of-coefficients strategy in small to moderate samples (Briggs, 2006). Therefore, we used maximum likelihood bootstrapping with AMOS 22 (Arbuckle, 2013) to estimate standard errors and confidence intervals (95%) for all relevant effects (5,000 samples were drawn). Our model presents two mediators and therefore it is considered a multiple mediation model. Therefore, in this study we focused on the total indirect effect of secure attachment on job performance (.467, $z=4.94, p<.01$), and also on specific indirect effects. The specific indirect effects are through dominant-leadership = .298 ($z=5.01, p<.01$), and through coalition-building .144 ($z=3.24, p<.01$). The SEs and critical ratios for these effects are reported in Table 2. Total effect (c) of secure attachment on job performance via dominant-leadership and coalition-building is equal to the sum of direct effect (-.08) and all specific indirect effects (.298+.144 =.442), which is equal to .362.

Insert Table 2 about here

We bootstrapped the indirect effects of secure attachment on job performance. The findings in Table 2 reveal that the true total indirect effect range from .195 to .534 and the estimated effect is .392. These findings indicate that the total indirect effect is significant. True indirect effect via dominant-leadership ranges from .145 to .412 and the estimated effect is .285. The indirect effect for dominant-leadership appears to be significant as well. Finally, the indirect effect via coalition-building ranges from .64 to .234 and the estimated effect is .133. The indirect effect for coalition-building is also significant. Therefore, in support of Hypotheses 2a and 3a, the

relation between secure attachment and job performance was fully mediated by employees' dominant-leadership and coalition-building.

The direct relations between coalition-building and job promotion were insignificant, indicating that coalition-building does not mediate the relation between secure attachment and job promotion. Therefore, hypothesis 3b was not supported. We used bootstrapping to assess the mediating effect of dominant-leadership on the relation between secure attachment and job promotion. In support of hypothesis 3a, the results indicated that secure attachment had a total indirect effect of .11 (95% CI = .06/.17; SE = .058, $p = .001$) on job promotion. Also, the previously significant relations between secure attachment and job promotion became insignificant ($\beta = .14, p > .05$) in the presence of dominant-leadership. Thus, the relations between secure attachment and job promotion were fully mediated by dominant-leadership.

4.3. *Gender differences in social rank behaviors*

Our findings further indicated that the relations between gender and dominant-leadership, and between gender and coalition-building were negative ($\beta = -0.19, p < .05$; $\beta = -0.24, p < .05$, respectively), suggesting that women tend to report lower levels of dominant-leadership and coalition-building. We further examined these gender differences using a t-test which confirmed that in support of Hypothesis 4, women's mean dominant-leadership score was significantly lower than men's mean score ($t = 2.74, p < .05$), and that women's mean coalition-building score was significantly lower than men's mean score ($t = 2.66, p < .05$).

4.4. *Logistic regression results*

We conducted a logistic regression analysis to assess the likelihood of securely attached people and those who use dominant-leadership to get a future job promotion. Logistic regression (Hosmer, Lemeshow, & Sturdivant, 2013) is an appropriate method for predicting a dichotomous outcome variable (e.g., Wanberg & Banas, 2000). Our findings indicate that more securely attached employees (1 SD above the mean) were 5.34 times more likely to get a job promotion in comparison to insecure employees (1 SD below the mean), and 2.67 times more likely to get a job

promotion in comparison to employees with mean levels of secure attachment, 29 months later. The findings further indicate that people high on dominant-leadership (1 SD above the mean) were 6.74 times more likely to be promoted in comparison to employees with lower dominant-leadership (1 SD below the mean), and they were 3.37 times more likely to be promoted in comparison to employees with mean level of dominant-leadership 14 months later.

Finally, the use of a small sample size in this study should be justified. According to MacCallum and his colleagues (1999), the minimum sample size needed to assure good recovery of population factors vary across studies depending on aspects of the variables and the design in a given study. They examined this issue empirically and found that two factors play a critical role in determining whether a sample is sufficiently large: the extent to which factors are well determined, and the level of communality. In our sample, we had a small number of well determined factors and the communalities were consistently high (with a range of 0.55 to 0.84 and an average of 0.72). Having a small number of well determined factors as opposed to having a high number of factors with overdetermination of factors, can improve the quality of factor analysis solution and therefore reduce the impact of sample size. Additionally, when communalities are consistently high, then that aspect of sampling that has a detrimental effect on model fit and precision of parameter estimates receives a low weight, thus greatly reducing the impact of sample size and other aspects of design. MacCallum et al., (1999) conclude that “good recovery of population factors can be achieved with samples that would traditionally be considered too small for factor analytic studies, even when N is well below 100” (p. 94).

Discussion

This study sought to examine the relations between attachment security, job performance and job promotion, and the extent to which these relations might be mediated by particular social rank behaviors. In their exposition of attachment theory in adulthood, Mikulincer and Shaver (2007) propose that a pervasive sense of security make securely attached individuals more adept at dealing constructively with life’s challenges in all life spheres including the work domain. Our

findings indicate that securely attached employees were indeed more likely than insecure employees to demonstrate better job performance fifteen months after their attachment style was assessed. In this context, our findings are consistent with attachment theory (Mikulincer & Shaver, 2007) and with previous research regarding the positive influence of secure attachment on job performance (e.g., Hazan & Shaver, 1990). Our findings further indicate that secure employees were approximately five times more likely to be promoted on their job in comparison to insecure employees, twenty nine months after their attachment style was assessed. As far as we know, this is the first study that examines the role of secure attachment in predicting future career advancement of full-time employees.

In addition, consistent with our predictions we found that dominant-leadership transferred the effect of secure attachment on job performance and job promotion. Specifically, more secure employees reported more frequent use of dominant-leadership behavior which in turn led to higher job performance and higher job promotion. It should be noted that attachment security and dominant-leadership predicted higher promotion rates even after controlling for employment period which is considered a significant predictor of job promotion (e.g., Maassen van den Brink & Groot, 1996). Our findings further indicate that secure employees reported more collaborative and prosocial behaviors (i.e., coalition-building) which in turn led to higher job performance. In this context our findings are meaningful because they show that people who feel secure in their relationships with others are more likely to behave in ways that contribute to the groups in which they operate. Overall, our findings suggest that an explanation for the relations between secure attachment and job functioning that is based on behaviors that are aimed at getting along and getting ahead might be a valid explanation. However, given that this is the first study that focuses on the mediating effect of social-rank behaviors in the work context, and since our study's sample is based on Israeli engineers, more research is necessary before such an assertion can be made with confidence.

Interestingly, our findings indicate that although coalition-building was related to job performance, it did not predict job promotion. One possible explanation for this finding could be that coalition-building represents a slower path to promotion and maybe in the long run, a path to more promotions as one uses their social network. Alternatively, it is possible that coalition-builders have relatively low level of desire for promotion which may affect how others perceive and treat them. As Anderson and Kilduff (2009a) note, “status differences are the product of the group’s judgment about who possesses valued characteristics, as well as the individual’s desire for and pursuit of higher standing” (p.296). Future research should attempt to evaluate the moderating effect of desire for promotion on the relations between coalition-building and job promotion and to identify other moderators in these relations.

In the current study, we found significant gender differences in social-rank behaviors. These differences are interesting given that engineering is still considered a male-dominated profession that represents a non-traditional occupational choice for women. It has been suggested that women in traditional masculine roles can face an impression management dilemma because they are expected to exhibit dominant behavior to be perceived as competent, but if they do so, they can face sanctions for displaying confidence and ambition. By the same token, exhibiting high levels of communal behavior may disqualify women on the basis of perceived incompetence (Phelan, Moss- Racusin, & Rudman, 2008). This double bind may lead women engineers to behave in a manner that is not perceived as too agentic or too communal so that they will earn social approval and appreciation. In support of this rationale, the results of our study show that women engineers reported lower levels of dominant-leadership and lower levels of coalition-building comparing to their men peers. Future studies should attempt to identify moderating variables in these relations and to examine how the relations between dominant-leadership and coalition-building and work outcomes change across genders.

This study promotes our understanding of the factors that affect job performance and career advancement beyond what is currently known and it expands our knowledge on one way in

which secure attachment contributes to performance in the work context. We believe that our study engenders a methodological contribution to the literature of attachment at the workplace. Specifically, by using a time-lagged design, we were able to demonstrate the predictive validity of attachment security over periods of fifteen and twenty nine months. These findings are consistent with recent reviews of the literature that indicate that attachment security is a stable and an enduring characteristic of individuals (Fraley & Brumbaugh, 2004) that can have a far reaching impact on people's life (Mikulincer & Shaver, 2007). While our findings do not in any way substantiate cause and effect relations between the study's variables, the design we used allows us to rule out the possibility that social rank, job performance, and job promotion affected people's secure attachment. Yet, more research is needed using a longitudinal design that allows for an analysis of causality in this context.

5.1. Limitations

In addition to its strengths, an important methodological limitation of the current study is its predominant use of self-report measures. While we agree that future research should include other sources such as third-party reports or human resources records to increase validity, self-report measures are appropriate when assessing subjective states such as attachment security and self perceptions (Diener, 1994). Also, studies show that self-report and different rating sources of work behaviors (e.g., organizational citizenship behaviors) provide comparable information (Carpenter, Berry, & Houston, 2014).

Another limitation of this study is that it was conducted among engineers solely in Israeli organizations, most of which are high-tech companies. This may indicate that the findings have been influenced by and are more relevant to the cultural attributes of that country in general, and the engineering profession in Israel in particular. Recent studies have indicated, however, that Israel's society and work culture are strongly influenced by current global tendency of neo-individualism. This is particularly the case for high-tech organizations which operate in global markets (Meisler & Vigoda-Gadot, 2013; Vigoda-Gadot & Drory, 2006). It has further been

suggested that like most industrialized Western nations, Israel is a pluralistic society and the Israeli labor market has adopted the norms of free market competition (Harpaz & Meshoulam, 2010; Eldor, 2016). Therefore, although we think that future studies should test the applicability of the current findings to other occupations, cultures, and workplace contexts, we believe that our findings may be representative of work environments in other industrialized Western societies (Hofstede, 2015).

Another limitation of this study is that it did not assess differences in social-rank behaviors across different occupation groups within the engineering profession. Studying these differences might be important given that some of the engineering units would seem to be more socially oriented compare to others. For example, whereas civil engineering, communication systems, and industrial engineering would seem to be more people oriented than some of the other engineering units, computer, mechanical, chemical, materials, nuclear, biomedical, and biotechnology engineering would seem to be more task oriented. Future studies should attempt to explore such differences.

5.2. Future research directions

Despite these limitations, our findings provide further evidence that secure attachment can benefit organizations and their members. As Harms notes (2011, p.292), “relating attachment to workplace outcomes is still rare, but potentially represents one of the highest potential areas for applied individual differences researchers”. Specifically, our study demonstrates that how secure people feel in their relationships with others is related to their performance on the job as well as their chances of being promoted. However, this does not imply that we have answers to all of our questions regarding the effect of attachment security on work-related functioning. In fact, reaching a full understanding of the relations between secure attachment and job performance represents an important challenge for researchers because attachment style is a distal force that influences behavior. Other variables that mediate or moderate its effect should be taken into account to adequately explain the impact secure attachment has on work behavior and work

outcomes. For example, secure work-base, a context-specific construct that was recently introduced as having the potential to promote employees' sense of secure attachment (Ronen & Mikulincer, 2012, 2014), can act as a salient contextual moderator. In particular, it may be possible that the negative association between insecure attachment and job performance may be attenuated in those contexts in which secure work base is predominant (when employees feel that support is available when needed, that their capabilities and efforts are being affirmed and appreciated, and when their initiatives are not being interrupted). Unfortunately, in this study we did not assess levels of secure work-base and therefore have no way to test such a hypothesis. However, we need to focus on a systematic and careful study of these and other mediating and moderating effects in exploring the effect of secure attachment on work outcomes. We believe that secure attachment does matter at work, and anticipate that it will be viewed as an important predictor of job functioning.

5.3. Managerial implications

The results of this study have clear implications for the design of organizational intervention procedures. Whereas increasing the level of attachment security among employees could be a challenging task for organizations, training and raising employees' awareness to the possible benefits associated with "dominant-leadership" and "coalition-building", might be more feasible. For example, organizations can train and encourage employees to behave in a more cooperative manner in situations that call for collaboration, or to adopt more assertive and initiative behaviors when appropriate.

Our findings also have clear practical implications for the design of selection methods for recruitment and advancement (in rank or position) of employees. Although designing an employee selection program is beyond the scope of this manuscript, the findings of the present study suggest that policy makers, who are interested in recruiting productive members to their organizations, should consider using attachment and social rank scales to support decisions related to selection and development of employees.

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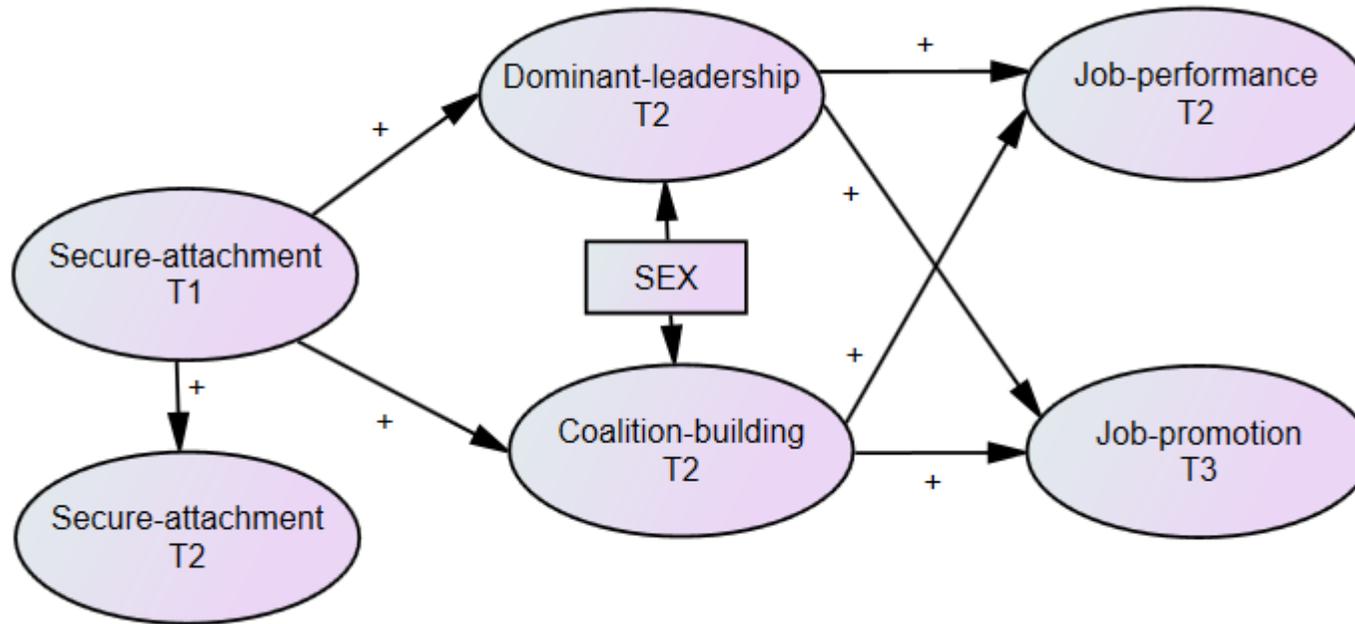


Figure 1: Conceptual model with depicted direct effects hypotheses

35 ATTACHMENT AND JOB PERFORMANCE

Table 1- Means, Standard Deviations, Coefficient Alphas, and Correlations among Study Variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. Secure attachment T1	3.88	1.16	<i>0.77</i>								
2. Secure attachment T2	3.92	1.09	.64	<i>0.82</i>							
3. Dominant-leadership T2	4.99	1.01	.30	.31	<i>0.83</i>						
4. Coalition-building T2	5.38	0.68	.39	.38	.36	<i>0.75</i>					
5. Job promotion T3	0.55	0.50	.35	.30	.59	.29					
6. Job performance T2	5.19	0.83	.34	.33	.66	.58	.40	<i>0.90</i>			
7. Gender	1.31	0.47	.11	-.09	-.23	-.25	-.07	-.07			
8. Age	27.06	2.15	.07	.05	.02	.11	-.04	.13	-.31		
9. GPA	4.46	1.33	-.02	.06	.06	.02	.13	.01	-.10	-.13	
10. Employment period T3	10.17	4.06	.06	.01	.07	.08	.11	-.01	-.07	.00	-.06

Note: Decimals in correlations have been omitted. Internal consistency reliability estimates are listed on diagonal. All correlations $r \geq |.10| \leq |.13|$ are significant with $p < .05$ and $r > |.13|$ are significant with $p < .01$. Gender = we used the code “1” for males and “2” for females.

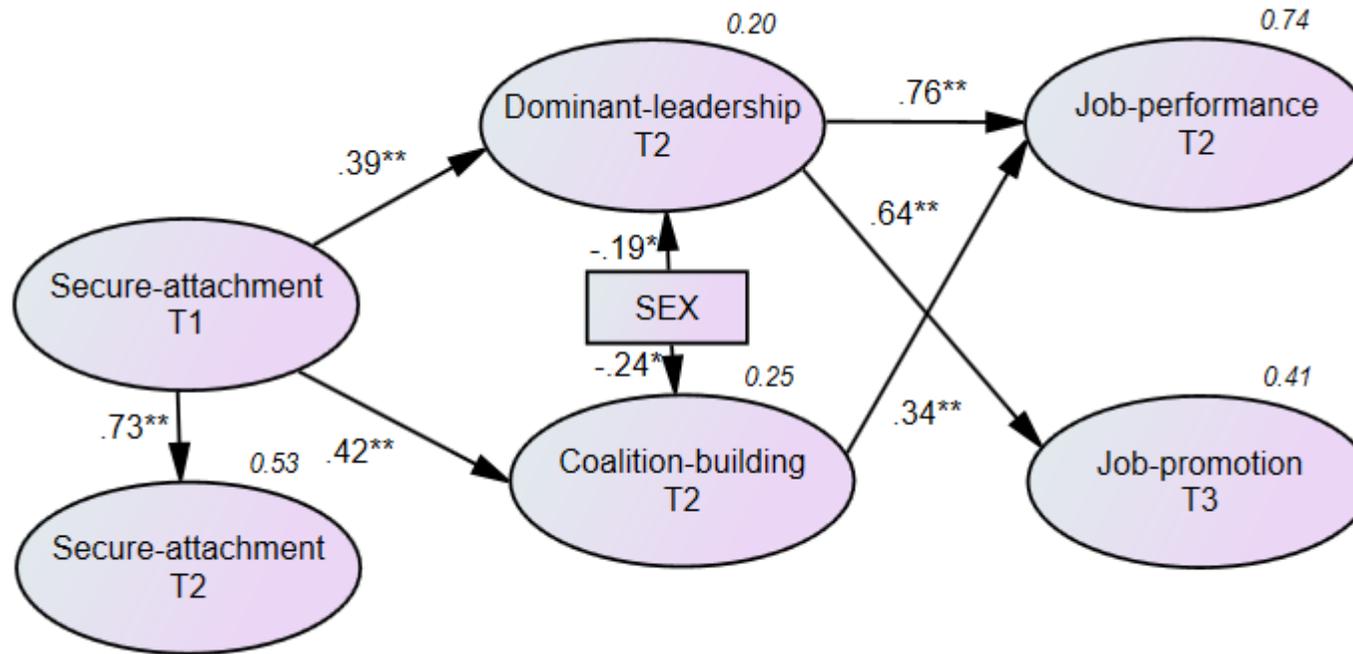


Figure 2: Standardized results of the mediated model. Squared multiple correlations for endogenous variables are reported in italics.

$**p < .01$; $*p < .05$.

Table 2: Indirect effects of secure attachment on job performance through dominant-leadership and coalition-building.

	Point estimate	Boot	Product of coefficients		Bootstrapping BC 95 % CI	
			SE	Z	Lower limit	Upper limit
Total	.467	.392	.086	7.23**	.195	.534
Dominant-leadership	.298	.285	.092	5.01**	.145	.412
Coalition-building	.144	.133	.056	3.24**	.064	.234
C1	.154	.149	.042	3.18**	.078	.221

C1 = Contrast of the two indirect effects, SE= Standard error, **. $p < 0.01$, BC= Bias Corrected Confidence Intervals, 5000 bootstrap samples.

Highlights

- Secure attachment predicts future job performance and job promotion.
- Secure attachment predicts dominant-leadership and coalition-building behaviors.
- Women engineers exhibit less dominant-leadership and less coalition-building
- Organizations can train employees to adopt more positive social rank behaviors.