



Revista de Psicología del Trabajo y de las Organizaciones

ISSN: 1576-5962

revistas_copm@cop.es

Colegio Oficial de Psicólogos de Madrid
España

Geenen, Brigitte; Proost, Karin; Schreurs, Bert; van Dam, Karen; von Grumbkow, Jasper
What friends tell you about justice: The influence of peer communication on applicant reactions
Revista de Psicología del Trabajo y de las Organizaciones, vol. 29, núm. 1, abril, 2013, pp. 37-44
Colegio Oficial de Psicólogos de Madrid
Madrid, España

Available in: <http://www.redalyc.org/articulo.oa?id=231327558006>

- How to cite
- Complete issue
- More information about this article
- Journal's homepage in redalyc.org

redalyc.org

Scientific Information System
Network of Scientific Journals from Latin America, the Caribbean, Spain and Portugal
Non-profit academic project, developed under the open access initiative



Journal of Work and Organizational Psychology

www.elsevier.es/rpto



What friends tell you about justice: The influence of peer communication on applicant reactions

Brigitte Geenen^{a*}, Karin Proost^b, Bert Schreurs^c, Karen van Dam^a, and Jasper von Grumbkow^a

^aOpen University, The Netherlands

^bHogeschool-Universiteit Brussel, Belgium

^cMaastricht University School of Business and Economics, The Netherlands

ARTICLE INFORMATION

Manuscript received: 15/10/2012

Revision received: 30/1/2013

Accepted: 30/1/2013

Keywords:

Peer communication

Distributive justice expectations

Interpersonal justice expectations

Test anxiety

Test motivation

ABSTRACT

This study examined the influence of peer communication concerning a selection procedure on the levels of anxiety among applicants taking a test and test motivation regarding a similar selection procedure, through the formation of interpersonal and distributive justice expectations. The hypotheses were addressed in a randomized four-group experiment. The results of the mediated hierarchical regression analyses showed significant mediating effects. Specifically, peer communication about interpersonal justice shaped applicants' interpersonal justice expectations, which in turn related negatively to applicants' levels of test anxiety. Peer communication about distributive justice shaped applicants' distributive justice expectations, which in turn related positively to applicants' test motivation.

© 2013 Colegio Oficial de Psicólogos de Madrid. All rights reserved.

Lo que te dicen los amigos sobre la justicia: influencia de la comunicación entre iguales en la reacción de los aspirantes

RESUMEN

Este estudio examinó la influencia de la comunicación entre iguales en un proceso de selección sobre los niveles de ansiedad en aspirantes que realizan un test y su motivación para realizarlo en un proceso de selección similar, a través de la formación de expectativas de justicia distributiva e interpersonal. Las hipótesis se pusieron a prueba mediante un diseño aleatorizado de cuatro grupos. Los resultados de los análisis de regresión jerárquica mediada mostraron efectos mediadores significativos. Especialmente la comunicación entre iguales sobre la justicia interpersonal configuró las expectativas sobre justicia interpersonal de los solicitantes, las cuales a su vez se relacionaron negativamente con los niveles de ansiedad de exámenes de los solicitantes. La comunicación entre iguales acerca de la justicia distributiva configuró las expectativas de justicia distributiva, que a su vez se relacionaron positivamente con la motivación para realizar exámenes de los solicitantes.

© 2013 Colegio Oficial de Psicólogos de Madrid. Todos los derechos reservados.

In their search for information about job vacancies and employers, applicants generally use their network (Wanberg, Kanfer, & Banas, 2000) rather than solely relying on information or signals given by organizations. People talk to friends and relatives who went through the same or similar selection procedures about their experiences. Often information is exchanged about the fairness of the treatment received (Mikula, Petri, & Tanzer, 1990).

Previous research on the influence of peer communication on applicant reactions has focused mostly on information about the attractiveness of the organization as an employer or about specific jobs (see e.g., Van Hove & Lievens, 2007, 2009) at the expense of peer communication about the fairness of the selection process. This peer communication about fairness, however, can have important consequences for the applicant and the organization. First, through peer communication, friends and relatives might influence the expectations applicants form about the selection procedure they are about to enter. When friends talk about (un)fair treatment, this may create expectations of (un)fairness. Further, these newly formed justice expectations may influence applicants' test attitudes, such as test motivation, as observed by Bell, Wiechmann, and Ryan (2006),

*Correspondence concerning this article should be sent to Brigitte Geenen (Open University of the Netherlands, P.O. Box 2960, 6401 DL Heerlen, the Netherlands). E-mail: BAM.Geenen@gmail.com.

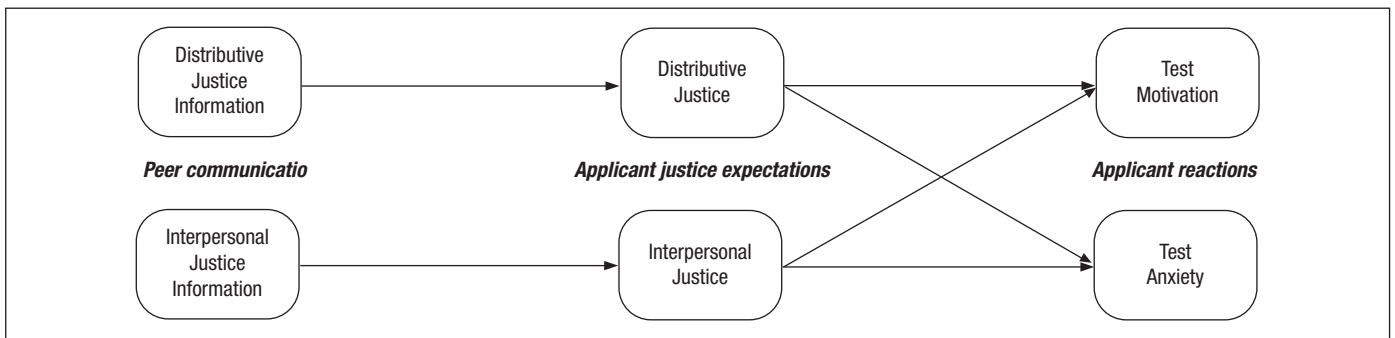


Figure 1. Research Model

and test anxiety, as suggested by Bell, Ryan, and Wiechmann (2004). These test attitudes are important outcomes to consider for organizations since they may influence the selection ratio and, consequently, affect the reliability and validity of resulting personnel selection decisions (Deros, Van der Velde, & Born, 2011; McCarthy & Goffin, 2005; Proost, Deros, Schreurs, Hagtvet, & De Witte, 2008; Schmit & Ryan, 1997; Schuler, 1993).

The present study aimed to investigate the causal path from peer communication about fairness to applicants' test anxiety and test motivation (see Figure 1). More specifically, we examined whether expectations of interpersonal and distributive justice mediated this relationship. To test the proposed model, an experiment was conducted in which peer communication about interpersonal and distributive justice was manipulated. The rationale of focusing on interpersonal and distributive justice is that both types are specifically associated with personal attitudes (i.e., test anxiety, test motivation) about specific events (i.e., the upcoming selection procedure) rather than organizational outcomes and/or attitudes about the organizational system (Ambrose, Hess, & Ganesan, 2007; McFarlin & Sweeney, 1992).

Peer Communication as an Antecedent of Justice Expectations

Peer communication in the selection context can be conceptualized as peers (i.e., other applicants who have gone through the same or similar selection procedure) sharing information about previous selection experiences (Bell et al., 2004). Especially early in the recruitment process and without first-hand experience of the employer, most external applicants are unfamiliar with the organization and the trustworthiness of the organization (Searle & Billsberry, 2011). In the absence of information about the organization, applicants will use information from peers to form impressions about an organization (Bangerter, Roulin, & König, 2012; Rynes, 1991; Rynes, Bretz, & Gerhart, 1991). Lack of knowledge, or uncertainty, about future events undermines feelings of ability to control those future events, which, in turn, could lead to negative consequences, such as anxiety (DiFonzo & Bordia, 2002). Uncertainty about important matters (i.e., a selection) motivates behavior, such as interacting with peers, that reduces uncertainty (Hogg, 2000). This suggests that when uncertain about an upcoming selection encounter, applicants will be motivated to get information from peers in order to cope with that selection situation. This is in line with social information processing theory (Salancik & Pfeffer, 1978), which states that people actively seek information from their immediate social environment, on which they base their subsequent cognitions and behavior. Individuals are particularly eager to get information from people who experienced a similar event, as their views are seen as more relevant (Festinger, 1954). The derived information is connected in memory with existing organized knowledge and that integrated knowledge in turn influences the formation of expectations with respect to upcoming events (Huesmann, 1998).

In the same way, peer communication about justice related aspects will influence the development of justice expectations. In the literature, this process is referred to as cognitive contagion of justice and suggests that the simple act of conversing about justice may cause a significant shift in how people evaluate the justice of an event or situation (Degoey, 2000). Brockner et al. (1997) found support for this contagion process when observing how justice related information provided by relevant others altered people's attitudes towards justice in a given situation.

In a selection context, cognitive contagion of justice may explain how justice related information from peers who have gone through a similar selection procedure might shape applicants' justice expectations about an upcoming selection procedure. Specifically, we argue that applicants may form justice expectations about the fairness of the interpersonal treatment they will receive (i.e., interpersonal justice expectations; Gilliland, 1993), based on the treatment that was given to a friend. For example, an applicant hears from a friend, who went through the same selection procedure, that he has been treated in terms of personal relations in a warm and friendly way and with dignity and respect. From this information the applicant may conclude that he/she probably will also be treated in a fair way. Conversely, when the applicant learns from a friend that he has been treated in a very unfriendly and disrespectful manner, the applicant may infer that unfair treatment can also be expected in his/her selection process.

Similarly, applicants may develop justice expectations about the fairness of the outcome they will receive (being hired or not, i.e., distributive justice expectations, Gilliland, 1993), based on the fairness of the outcome that was achieved by their friends. For example, when an applicant hears from a friend that being hired at that organization depends more on favoritism than on a fair outcome of the selection process, he/she may expect a similar unfair outcome of the selection process.

Based on these theoretical arguments, we developed the following hypothesis:

'Hypothesis 1: Peer communication about interpersonal and distributive justice of a selection procedure is positively related to applicants' interpersonal justice expectations (H1a) and distributive justice expectations (H1b), respectively.'

Interpersonal and Distributive Justice Expectations and Test Anxiety

Test anxiety can be defined as the anxiety that occurs during evaluative situations (Sarason, 1978; Zeidner, 1998). It is a negative affective state (Reber, 1995) that might imply a threat to individuals' self-esteem and ego (Spielberger, 1966). Test anxiety research, however, shows that a supporting and reassuring environment can have a direct soothing effect on anxious individuals and can help them to cope with test anxiety (Goldsmith & Albrecht, 1993; Putwain, 2009; Zeidner, 1998). Such a reassuring environment may reduce uncertainty and may, therefore, lower test anxiety.

From a justice perspective, this suggests that people may experience less test anxiety when they perceive interpersonal justice to be high. This idea was supported in a study by Carless and Imber (2007) that showed how interviewers' interpersonal skills (i.e., warmth, respectfulness, thoughtfulness) had a positive effect on applicants' well-being and substantially reduced their level of test anxiety.

Research further suggests that not only experiencing but just *expecting* another person's respect and warmth may have a similar effect (Casbarro, 2005; Stiff, Dillard, Somera, Kim, & Sleight, 1988). Casbarro (2005), for instance, found lower levels of test anxiety for students expecting a respectful and friendly teacher as opposed to those expecting a strict teacher. In the selection context, this means that applicants, expecting high levels of interpersonal justice may experience less test anxiety than applicants who expect low levels.

Similarly, a reduction in test anxiety may occur following distributive justice expectations. Test anxiety could arise from uncertainty about a future event, specifically uncertainty about the outcome of the selection procedure. One way to reduce uncertainty about the outcome of the selection procedure is by seeking information about fairness of the outcome of the selection procedure (i.e., distributive fairness, see Lind & van den Bos, 2002). Information about distributive fairness helps to cope with uncertainty about the outcome of the selection and could, therefore, result in a reduction of anxiety. In the same line, studies show that expecting distributive fairness reinforces employees' feelings of efficacy (e.g., Siegrist, 1996). Individuals with low self-efficacy perceptions tend to focus on their deficiencies and suffer from anxiety and stress (Bandura, 1986) and studies in evaluative situations have found a significant negative relationship between perceived self-efficacy and test anxiety (Bandalos, Yates, & Thorndike-Christ, 1995; Benson, Bandalos, & Hutchinson, 1994; Betz & Hackett, 1983). For the selection context, this suggests that expecting *unfairness* from the way outcomes are allocated (distributive unfairness), may increase applicants' test anxiety, while expecting distributive justice may result in a reduced level of test anxiety.

Based on these theoretical and empirical arguments we developed the following hypothesis:

'Hypothesis 2: Interpersonal justice expectations (H2a) and distributive justice expectations (H2b) are negatively related to applicants' test anxiety'.

Interpersonal and Distributive Justice Expectations and Test Motivation

Test motivation has been defined as an individual's willingness to work on test items and invest effort and persistence in working on them (Arvey, Strickland, Drauden, & Martin, 1990). People's motivation to work on a task may be related to what they expect to receive from that effort (Vroom, 1964), but may also be related to the way in which they have been treated by others (Gouldner, 1960). According to reciprocity theory (Gouldner, 1960), people generally return treatment they have received from others. For example, in response to friendly actions, people are often more agreeable and cooperative, while they are more offensive and even brutal, in response to hostile actions (Fehr & Gächter, 2000). Fehr and Gächter (2000) also found employees who were reciprocally motivated to put extra effort into a task above the level demanded by material incentives alone. Studies provide evidence of this reciprocal influence even in asymmetrical power relations, such as in the exchange relationship between employee and employer (Coyle-Shapiro & Kessler, 2002). Reciprocity not only motivates behavior in response to treatment experienced, but also to treatment that is *anticipated* (Gouldner, 1960; Rabin, 1993). In the selection context this suggests that if applicants expect an organization to treat them in a friendly and respectful manner, they may be inclined to reciprocate that positive treatment by being more willing to put effort into the selection test.

Other factors, such as signaling, may also influence test motivation. According to signaling theory (Rynes, 1991; Spence, 1973), applicants use recruitment-related activities and information as signals of unknown organizational characteristics (Collins & Stevens, 2002; Turban & Cable, 2003; Turban, Forret, & Hendrickson, 1998). Applicants lacking information about an organization will interpret available information (i.e., through peer communication) as signals about other jobs and organizational attributes (Celani & Singh, 2011). Applicants who expect fair and respectful treatment from the recruiter may interpret this expected courteous behavior as reflective of the organization's positive attitudes and fair culture. Research has identified that organizations with more positive reputations are perceived as more attractive as employers (Turban & Cable, 2003) and organization brand has been identified to directly influence applicants' intentions to pursue employment with that organization (Han & Collins, 2002). This suggests that applicants who expect to be treated in a courteous manner and who interpret this behavior as reflective of the organization's culture may be more inclined to put effort into the selection test in order to enhance the chances of joining that organization, than applicants who expect to be treated in a disrespectful manner.

The above-mentioned arguments are in line with Bell et al. (2006) who found a significant positive relationship between interpersonal justice expectations and applicants' test motivation. Applicants with higher expectations of interpersonal justice reported higher levels of test motivation.

With respect to the effect of *distributive* justice expectations, it can be assumed that individuals who expect distributive fairness may be more motivated to put effort into a task, since they may have the confidence that their hard work will pay off. This is in line with expectancy value theory of achievement motivation (Atkinson, 1957; Vroom, 1964), which states that individuals are more motivated to do a task when they believe that their effort will lead to higher levels of performance and valued rewards. In the selection context this means that if applicants expect that being hired is probably very much dependent upon how well they perform in the selection test, those applicants are more motivated to put effort into the selection test. On the other hand, if applicants expect that being hired is less dependent on the outcome of the selection test, but more dependent on favoritism, they will probably not see the value of putting much effort into the test, resulting in lower test motivation.

Evidence for the relationship between perceived distributive injustice and motivation was observed by Tyagi (1990) who found that salespeople who perceived inequity were less motivated. Similarly, Leete (2000) observed that perceived wage equity and perceived employer fairness was related to employee motivation. Employees seem to put in more effort when they feel they are receiving a fair wage (Leete, 2000). Not only when distributive justice is perceived, but also when it is merely expected, has this relationship with motivation been identified. In the selection context, Bell et al. (2006) found that applicants who expected distributive fairness had a higher test motivation than applicants who did not expect distributive justice.

Based on theoretical and empirical evidence we developed the next hypothesis:

'Hypothesis 3: Interpersonal justice expectations (H3a) and distributive justice expectations (H3b) are positively related to applicants' test motivation'.

Given the above-mentioned relations, we expected justice expectations to mediate the relationships between peer communication about interpersonal/distributive justice and applicants' test anxiety and test motivation. Specifically, applicants who hear from a peer about the fairness he/she received during a similar situation may experience less test anxiety and be more motivated to put effort into the test because they also expect to receive similar fair treatment and a similar fair outcome.

Accordingly, we developed the following hypotheses:

Hypothesis 4: Interpersonal justice expectations mediate the relationship between peer communication about interpersonal justice and applicants' test anxiety (H4a), and test motivation (H4b).

Hypothesis 5: Distributive justice expectations mediate the relationship between peer communication about distributive justice and applicants' test anxiety (H5a) and test motivation (H5b).

Method

Participants and Design

The hypotheses were tested in a randomized four-group experiment. Participants in this study were 85 first year students in psychology at a university in Leuven, Belgium. The average age was 18 and 85 per cent were female. All students signed an informed consent form and received course credits in exchange for participation (i.e., for one hour). Participants were randomly assigned to a 2 by 2 between-subjects factorial design. The independent variables were peer communication about interpersonal justice (high versus low) and peer communication about distributive justice (high versus low). Dependent variables were applicants' test anxiety and test motivation and mediators were interpersonal and distributive justice expectations.

Experimental Procedure

All participants were requested to gather in the auditorium of the university for a collective experiment. Upon their arrival, participants were told that they were participating in a research about personnel selection. It was explained to them that it was important that they try to imagine actually taking part in the selection. They were then asked to read (in Dutch) a scenario. In all circumstances, the scenario started with: "Today you are applying for a job at Distrix Inc."

First, peer communication about distributive justice was presented. In the case of peer communication about *low distributive justice*, the scenario continued as follows: "Distrix Inc. is known for preferential treatment of people with the right connections with the organization. A friend, who applied at Distrix Inc., told you that the boss's nephew (who he happened to know) was selected for a position in preference to him, while your friend clearly was the more qualified and experienced candidate. The nephew also scored much lower on a number of application tests, which included an intelligence test and a presentation. Even so, your friend was not hired and the nephew was!" In the case of peer communication about *high distributive justice*, the scenario continued as follows: "Distrix Inc. is known for not giving preferential treatment to people with the right connections with the organization. A friend, who applied at Distrix Inc., told you that he was selected for a position, while the boss's nephew (who he happened to know) was not. Your friend clearly was the more qualified and experienced candidate. The nephew also scored much lower on a number of application tests, which included an intelligence test and a presentation. Your friend was hired and the nephew was not!"

This was followed by the presentation of peer communication about interpersonal justice. In the case of peer communication about *low interpersonal justice*, the scenario continued as follows: "Your friend also told you that during the selection process he was treated in an unfriendly way. On arrival for his application he was escorted into a room where some ten more applicants were waiting. After waiting quite a while, an HR professional entered the room and said: "Good morning, please be quiet for a moment so I may quickly brief you. In a moment I will give you an intelligence test, which you will have to complete. Please start immediately as I have more things to do today". In the case of peer communication about *high interpersonal justice*, the scenario continued as follows: "Your friend also told you

that during the selection process he was treated in a courteous manner. On arrival for his application he was escorted into a room where some ten more applicants were waiting. After a few minutes, an HR professional entered the room and said: "Good morning and welcome, I am really pleased that you are all interested in working with us. I will be very happy to spend some time with you this afternoon. In a moment I will give you an intelligence test and I wish you all success during this process".

Subsequently, the participants were handed out example items of the same intelligence test as the one filled out by the friend under the fictitious selection procedure mentioned to the participants. Participants who were told that they were going to fill out the same test were asked to read the instructions for the test and do the example test items. Just before participants started the actual intelligence test, however, a questionnaire was administered to measure test anxiety and test motivation. After one hour, all participants were asked to stop the test and were thanked and debriefed. Due to this time constraint, most students did not finish the cognitive test and therefore, results were excluded from further analyses.

Manipulation check

In a pilot study, we checked whether the scenarios were actually perceived as examples of interpersonal and distributive (in)justice. Thirty-two individuals (50 % female, $M_{age} = 39$ years; $SD = 12.96$) were asked to participate in this manipulation check. A different group of participants was used to check perceptions of the manipulated peer communications in order to prevent priming effects. The participants in the pilot study were randomly assigned to one of the four conditions. They were asked to read the scenario that was sent to them by email, and to complete and return the questionnaire measuring *perceived interpersonal justice* (Colquitt, 2001; 4 items, $\alpha = .93$, sample item: "During the examination for this job, my friend was treated with respect") and *perceived distributive justice* (Colquitt, 2001; 4 items, $\alpha = .97$, sample item: "The result of this selection process justified my friend's efforts").

Manipulation of peer communication about interpersonal justice had a significant effect on perceived interpersonal justice, $F(3, 28) = 169.16$, $p < .001$, whereas it had no effect on perceived distributive justice, $F(3, 28) = .00$, $p = .96$. Manipulation of peer communication about distributive justice had a significant effect on perceived distributive justice, $F(3, 28) = 27.30$, $p < .001$, whereas it had no effect on perceived interpersonal justice, $F(3, 28) = .14$, $p = .71$. The interactions between peer communication about interpersonal and distributive justice were not significant. These results suggest that the manipulations were successful.

Measures

Justice Expectations. Interpersonal and distributive justice expectations were measured through two four-item scales developed by Colquitt (2001) and adapted to the selection context by Bell et al. (2006). Responses were given on a five-point Likert-type scale (1 = *totally disagree*, 5 = *totally agree*). A sample item of interpersonal justice expectations is "During this selection procedure, I expect that I will be treated with respect". A sample item of distributive justice expectations is "During this selection procedure, I expect that the result of this procedure will be fair, given my performance". Cronbach's alpha was .97 for interpersonal justice expectations and .93 for distributive justice expectations.

Test anxiety. Test anxiety was measured by the State Anxiety form of the State Trait Anxiety Inventory (STAI) developed by Spielberger, Gorsuch, and Lushene (1970) and adapted for use in Dutch by Van der Ploeg, Defares, and Spielberger (1980). The STAI is a widely used instrument for measuring test anxiety and appears to be a valid

Table 1
Descriptive statistics and intercorrelations between the variables

		<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1	Peer communication about interpersonal justice	.01	1.01	--					
2	Peer communication about distributive justice	.01	1.01	-.04	--				
3	Interpersonal justice expectations	3.54	1.20	.69***	-.11	(.97)			
4	Distributive justice expectations	3.24	0.92	.08	.64***	.29**	(.93)		
5	Test anxiety	2.49	0.47	-.24*	.17	-.39***	-.05	(.91)	
6	Test motivation	4.74	0.63	.04	.33**	.24*	.51***	-.13	(.88)

Note. $N = 85$; * $p < .05$; ** $p < .01$; *** $p < .001$

indicator of anxiety during test-taking (Seipp, 1991). The STAI State Anxiety has 20 items, to be rated on a four-point scale (1 = *not at all*, 4 = *very much so*). A sample item is “At this moment, I feel afraid”. Cronbach’s alpha was .91.

Test motivation. Test motivation was assessed using the multidimensional Valence, Instrumentality, Expectancy Motivation Scale (VIEMS) developed by Sanchez, Truxillo and Bauer (2000), measuring three dimensions: valence (3 items; e.g., “I want to pass this test”), instrumentality (4 items; e.g., “The higher my intelligence test score is, the better my chance of being hired”), and expectancy (3 items; e.g., “If I try to do my best on this intelligence test, I can get a high score”). As suggested by Sanchez et al. (2000) and in line with research by Bell et al. (2006), a test motivation composite score was computed by averaging the valence, instrumentality and expectancy values for each participant. Responses were given on a six-point scale (1 = *totally disagree*, 6 = *totally agree*). Cronbach’s alpha was .88.

Intelligence Test. The Dutch intelligence test series of Drenth (1965) was used as a measure of cognitive ability, since this test series is a frequently used measure of cognitive ability in the Netherlands (Oostrom, Born, Serlie, & Van der Molen, 2010). As mentioned, results of this test, however, were excluded from further analyses.

Analyses

In order to test the research model, hierarchical regression analysis was used. Mediation was assessed with a bootstrap procedure advocated by Preacher, Rucker, and Hayes (2007) for assessing indirect relationships. In this procedure, the initial effect values (B coefficients) are derived from multiple regression analyses. Bootstrapping then generates a sampling distribution of the product term of the B coefficients by randomly sampling sets of cases from the original sample and computing the product term. This procedure was followed 5,000 times in our study. Further corrections were then applied to adjust for differences between the product term derived from the original sample and the median product terms of the bootstrap estimates, resulting in bias-corrected bootstrap intervals. We assessed the indirect effect of peer communication about interpersonal and distributive justice on test anxiety and test motivation through interpersonal and distributive justice expectations. As recommended by Aiken and West (1991) we effect-coded high distributive/interpersonal justice (+1) versus low distributive/interpersonal justice (-1).

Although mediation can occur even if the effectiveness of a mediator is different under different conditions, in order to have full mediation, mediation needs to be effective under every condition (Collins, Graham, & Flaherty, 1998). In order to test this, we performed hierarchical regression analysis, verifying whether interactions between independent variables (i.e., peer communication about interpersonal and distributive justice) and mediators (i.e., interpersonal and distributive justice expectations) on test anxiety and test motivation were non-significant.

Preliminary Results

Means, standard deviations and intercorrelations between the variables in this study are presented in Table 1. The results showed significant positive relationships between peer communication about interpersonal justice and interpersonal justice expectations ($r = .69$), between peer communication about distributive justice and distributive justice expectations ($r = .64$) and between distributive justice expectations and test motivation ($r = .51$). A significant negative relationship was found between interpersonal justice expectations and test anxiety ($r = -.39$).

Hierarchical regression analyses showed non-significant interactions between peer communication about interpersonal justice and interpersonal justice expectations on test anxiety and test motivation ($\beta = -.54$, $p = .36$ and $\beta = .85$, $p = .13$, respectively). The interactions between peer communication about distributive justice and distributive justice expectations on test anxiety and test motivation were also not significant ($\beta = -.04$, $p = .95$ and $\beta = -.00$, $p = .99$, respectively).

Testing of Hypotheses

Results of the hierarchical regression analyses are presented in Table 2. Hypothesis 1a was supported: peer communication about interpersonal justice was positively related to expectations of interpersonal justice ($\beta = .69$, $p < .001$). Hypothesis 1b was also supported: peer communication about distributive justice was significantly related to expectations of distributive justice ($\beta = .65$, $p < .001$).

Interpersonal justice expectations were negatively related to test anxiety ($\beta = -.39$, $p < .05$), thus providing support for Hypothesis H2a. Similarly, a positive relationship was found between distributive justice expectations and test motivation ($\beta = .38$, $p < .05$), supporting Hypothesis 3b. No significant relationships were found between interpersonal justice expectations and test motivation and between distributive justice expectations and test anxiety; therefore, Hypotheses 3a and 2b were not supported.

Bootstrapping analyses (Preacher & Hayes, 2004) showed that there was a significant indirect effect of peer communication about interpersonal justice on test anxiety through interpersonal justice expectations (indirect $b = -.13$; 95% CI $-.26$ $-.01$), thereby confirming Hypothesis 4a. There was also a significant indirect effect of peer communication about distributive justice on test motivation through distributive justice expectations (indirect $b = .15$; 95% CI $.04$ $.28$), thereby confirming Hypothesis 5b. No support was found for Hypotheses 4b and 5a since Hypotheses 3a and 2b were not supported.

Discussion

This study investigated the influence of peer communication about interpersonal and distributive justice on test anxiety and test

Table 2
Results of Hierarchical Regression Analyses

	Interpersonal justice	Distributive justice	Test anxiety		Test motivation	
	Expectations	Expectations	Step 1	Step 2	Step 1	Step 2
PC about IJ	.69***	.11	-.23*	.04	.05	-.18
PC about DJ	-.08	.65***	.16	.15	.33**	.11
IJ expectations				-.39*		.28
DJ expectations				-.04		.38*
R ²	.49	.42	.08	.17	.11	.29
Adj R ²	.48	.41	.06	.13	.09	.25
R ² change	.49	.42	.08	.09	.11	.18
F change	39.13***	30.03***	3.75*	4.27*	5.09**	10.08***
df	2/82	2/82	2/82	2/80	2/82	2/80

Note. Cell entries represent standardized beta coefficients. * $p < .05$; ** $p < .01$; *** $p < .001$. PC = peer communication; IJ = interpersonal justice; DJ = distributive justice.

motivation, mediated by justice expectations. The results showed that peer communication about interpersonal and distributive justice shaped applicants' expectations about the fairness of the interpersonal treatment and outcome they were about to receive. As expected, applicants in our study used justice-related information from peers, who went through a similar selection procedure, to create their own justice expectations about the upcoming selection. This is in line with social information processing theory (Salancik & Pfeffer, 1978) and adds to the literature on cognitive contagion of justice (Degeoy, 2000).

As anticipated, when applicants expected to be treated in a fair interpersonal way they were less anxious about the selection test than when they anticipated unfair interpersonal treatment. In contrast to our expectations, however, expecting a fair or unfair outcome did not have an impact on applicants' test anxiety. A possible explanation of this result is that expecting distributive unfairness may not only have a possible negative impact. It may possibly also have a positive impact in the event that people with increased levels of anxiety about their test can attribute the outcome externally in the event of an unfair distribution. Persons high in test anxiety tend to attribute failing on a test to internal influences, such as a lack of ability (Arkin, Detton, & Maruyama, 1982). However, if those individuals expect the outcome not to be fair, they may perhaps feel that they will not have to blame themselves for a possible failure and, therefore, be less anxious about the test. The combination of the negative and positive impact of distributive justice expectations on test anxiety could perhaps counterbalance each other, and this would explain our results.

The positive relationship between applicants' distributive justice expectations and their test motivation was in line with expectancy value theory of achievement motivation (Atkinson, 1957; Vroom, 1964). Fair *interpersonal* treatment, however, did not have the expected impact on applicants' test motivation. Applicants who expected fair interpersonal treatment were not more motivated to put effort into the selection test than they would have been if they had expected unfair interpersonal treatment.

The findings of the study partially supported our expectations about the mediating effect of interpersonal and distributive justice expectations. Applicants who heard from peers about fair interpersonal treatment expected to receive similarly fair treatment and were therefore less anxious than applicants who received information from peers about unfair treatment. Applicants who received information from peers about the fairness of the outcome expected to receive a similarly fair outcome and were therefore more motivated to put effort into the selection test than applicants who received information from peers about an unfair outcome.

Limitations and suggestions for future research

To our knowledge, this is one of the first studies that have investigated the role of peer communication about selection procedure on applicants' test anxiety/test motivation as mediated by applicants' interpersonal/distributive justice expectations. However, some limitations should also be acknowledged. A first potential limitation relates to the definition of peers as 'friends' of the applicant who shared a similar experience, without further details about the relationship between the two. The influence of peer communication may depend on the nature and the trustworthiness of the source (Bell et al., 2004; Pornpitakpan, 2004) as well as on the level of tie strength (i.e., the closeness of the relationship with the source, see Van Hove & Lievens, 2007). Moreover, not only the trustworthiness of the source, but also the trust propensity of the applicants may be important to consider (see Searle, Weibel, & Den Hartog, 2011 for a review on trust propensity measures). Some applicants will be more willing to rely on peers than others, which could have an impact on the effect of peer communication. Future studies, therefore, could compare the effect of peer communication from friends with the effect of peer communication from those who are more or less strangers, manipulate the level of trustworthiness of the source and manipulate trust propensity of the trustor in order to get insight into the influence of peer communication under different circumstances.

A second limitation concerns the fact that this study was a scenario study. These types of experiments have been criticized for the fact that they may have a lower external validity and may yield misleading findings (Wachtel, 1980). Notwithstanding these concerns, we opted for a controlled experimental setting, which allowed us to draw causal inferences (Antonakis, Bendahan, Jacquart, & Lalive, 2010). In this way, we can start to understand how peer communication is related to justice expectations and, consequently, how to test anxiety and test motivation in a controlled setting. Further research is needed that investigates to what extent these relationships hold in more complex field settings and with less novice applicants.

A third limitation has to do with the fact that students and not real job seekers participated in this study. The students were given course credits in exchange for participation, but besides that they had nothing to gain/lose from doing well/not well in the test. In real selection situations, applicants may attach different levels of importance to succeeding within a selection process, for instance depending on whether someone already has a job and is just looking around or whether someone is desperate to get the job. This means that applicants may be affected differently by uncertainty and may have (less) stronger reactions. Future research could, therefore,

include salience to succeed as moderator in the relationship between justice expectations and applicant reactions. Studies in educational context have identified that personal consequence of tests relates positively to test motivation and negatively to test anxiety (Wolf & Smith, 1995).

In this study no control group was used. Future research, however, could include a control group that would represent a neutral condition where participants have neither negative nor positive information about the selection procedure in the company. Having a control group would show whether both experimental groups really differ from a neutral situation.

Since the primary focus of our study was to investigate the role of peer communication about the selection procedure on applicants' test anxiety/test motivation as mediated by applicants' interpersonal/distributive justice expectations, considering other data was beyond the scope of this study. Future research could consider effects of applicants' IQ level as well as applicants' self-concept, since it has been identified that those confident in their IQ and/or having high self-concept may be less likely to feel anxious about tests than those with a lower IQ or having low self-concept. Bandalos, Yates, and Thorndike-Christ (1995) for instance identified a negative relationship between self-concept and test anxiety (see Hansford & Hattie, 1982 for a meta-analysis).

Finally, this study focused on only two types of justice expectations, namely interpersonal and distributive justice. Future research could include other types of justice expectations (i.e., procedural justice expectations and informational justice expectations, see Colquitt, 2001) in order to obtain a more complete picture of how test anxiety and test motivation can be managed through justice expectations.

Practical Implications

The findings of this study can help organizations to improve the selection of valuable staff by actively influencing applicants' test anxiety and test motivation by managing applicants' justice expectations. Since these justice expectations are partly shaped by peer communication, organizations should become aware of the important role that peer communication can play. Like a virus spreading can manifest itself in a disease, peers expressing negative thoughts and feelings about injustice in the selection may have widespread consequences for the (image of the) organization (Degeoy, 2000). Organizations that pay attention to treating applicants fairly and in a friendly manner could stimulate employees to share experiences about their selection process via an independent forum. Such a forum will provide potential employees with information to help them decide where they would like to apply. Referring to this forum could even become part of employer-branding activities. Organizations will not be able to control what will actually be shared about the selection process, but they can make sure that employees have no reason to talk negatively about the selection process by implementing a selection process that is fair and respectful.

Once individuals have applied, organizations should then 'walk the talk' and treat applicants fairly and in a friendly manner. Applicants who feel reassured by the expectation that they will be treated with respect and can count on a fair outcome of the selection will be able to show their true potential, which will enhance organizations' chances of hiring the best staff.

Conclusion

To conclude, this study is one of the first studies empirically to show that peer communication about interpersonal justice relates to test anxiety and that this relationship is mediated by applicants' interpersonal justice expectations. Equally, this study also shows a significant mediating effect of distributive justice expectations on

the relationship between peer communication about distributive justice and test motivation. The result of the study emphasizes the possible contagious effects that peer communication can have and which should not be overlooked by organizations.

Conflicts of interest

The authors of this article declare no conflicts of interest.

References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: Sage.
- Ambrose, M., Hess, R. L., & Ganesan, S. (2007). The relationship between justice and attitudes: An examination of justice effects on event and system-related attitudes. *Organizational Behavior and Human Decision Processes*, 103, 21–36. doi:org/10.1016/j.obhdp.2007.01.001
- Antonakis, J., Bendahan, S., Jacquart, P., & Lalive, R. (2010). On making causal claims: A review and recommendations. *The Leadership Quarterly*, 21, 1086–1120. doi:10.1016/j.leaqua.2010.10.010
- Arkin, R. M., Detchon, C. S., & Maruyama, G. (1982). Roles of attribution, affect, and cognitive interference in test anxiety. *Journal of Personality and Social Psychology*, 43, 1111–1124. doi:10.1037/0022-3514.43.5.1111
- Atkinson, J. W. (1957). Motivational determinants of risk-taking behavior. *Psychological Review* 64, 359–372. doi:10.1037/h0043445
- Arvey, R., Strickland, W., Drauden, G., & Martin, C. (1990). Motivational components of test taking. *Personnel Psychology*, 43, 695–716. doi:10.1111/j.1744-6570.1990.tb00679.x
- Bandalos, D. L., Yates, K., & Thorndike-Christ, T. (1995). The effects of math-self-concept, perceived self-efficacy, and attributions for success and failure on test anxiety. *Journal of Educational Psychology*, 87, 611–624. doi:10.1037/0022-0663.87.4.611
- Bandura, A. (1986). *Social foundations of thought and action*. Englewood Cliffs, NJ: Prentice Hall.
- Bangerter, A., Roulin, N., & König, C. J. (2012). Personnel selection as a signaling game. *Journal of Applied Psychology*, 97, 719–738. doi:10.1037/a0026078
- Bell, B. S., Ryan, A. M., & Wiechmann, D. (2004). Justice expectations and applicant perceptions. *International Journal of Selection and Assessment*, 12, 24–38. doi:10.1111/j.0965-075X.2004.00261.x
- Bell, B. S., Wiechmann, D., & Ryan, A. M. (2006). Consequences of organizational justice expectations in a selection system. *Journal of Applied Psychology*, 91, 455–466. doi:10.1037/0021-9010.91.2.455
- Benson, J., Bandalos, D. L., & Hutchinson, S. (1994). Modeling test anxiety among males and females. *Anxiety, Stress, and Coping*, 7, 131–148. doi:10.1080/10615809408249340
- Betz, N. E., & Hackett, G. (1983). The relationship of self-efficacy expectations to the selection of science-based college majors. *Journal of Vocational Behavior*, 23, 329–345. doi:10.1016/0001-8791(83)90046-5
- Brockner, J., Hurley, R., Dewitt, R. L., Wiesenfeld, B., Grover, S., Stephan, J., ... Martin, C. (1997). The effects on layoff survivors of their fellow survivors' reactions. *Journal of Applied Social Psychology*, 27, 835–863. doi:10.1111/j.1559-1816.1997.tb00274.x
- Carless, S. A., & Imber, A. (2007). The influence of perceiver interviewer and job and organizational characteristics on applicant attraction and job choice intentions: The role of applicant anxiety. *International Journal of Selection and Assessment*, 15, 359–371. doi:10.1111/j.1468-2389.2007.00395.x
- Casbarro, J. (2005). *Test anxiety & what you can do about it: A practical guide for teachers, parents, and kids*. Port Chester, NY: Dude Publishing.
- Celani, A., & Singh, P. (2011). Signaling theory and applicant attraction outcome. *Personnel Review*, 40, 222–238. doi.org/10.1108/00483481111106093
- Collins, L. M., Graham, J. J., & Flaherty, B. P. (1998). An alternative framework for defining mediation. *Multivariate Behavioral Research*, 33, 295–312. doi:10.1207/s15327906mbr3302_5
- Collins, C. J., & Stevens, C. K. (2002). The relationship between early recruitment related activities and the application decisions of new labor-market entrants: A brand equity approach to recruitment. *Journal of Applied Psychology*, 87, 1121–1133.
- Colquitt, J. A. (2001). On the dimensionality of organizational justice: A construct validation of a measure. *Journal of Applied Psychology*, 86, 386–400. doi:10.1037/0021-10.86.3.386
- Coyle-Shapiro, J. A. M., & Kessler, I. (2002). Exploring reciprocity through the lens of the psychological contract: Employee and employer perspectives. *European Journal of Work and Organizational Psychology*, 11, 69–86. doi.org/10.1080/13594320143000852
- Degeoy, P. (2000). Contagious justice: Exploring the social construction of justice in organizations. In B. M. Staw & R. I. Sutton (Eds.), *Research in organizational behaviour* (Vol 22, pp. 51–102). New York, NY: Elsevier Science.
- Derous, E., Van der Velde, M. E. G., & Born, M. Ph. (2011). Terug van nooit weggeweest; Inleiding op de nieuwe reeks 'Werving en Selectie'. [Back of never left; Introduction to the new series of 'Recruiting']. *Gedrag & Organisatie*, 24, 3–17.
- DiFonzo, N., & Bordia, P. (2002). Corporate rumor activity, belief and accuracy. *Public Relations Review*, 28, 1–19. doi:10.1016/S0363-8111(02)00107-8
- Drenth, P. J. (1965). *Test voor niet verbale abstractie [Test for non verbal abstraction]*. Amsterdam, NL: Swets & Zeitlinger.
- Fehr, E., & Gächter, S. (2000). Fairness and retaliation: The economics of reciprocity. *Journal of Economic Perspectives*, 14, 159–181. Retrieved from <http://www.iew.uzh.ch/wp/iewwp040.pdf>

- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7, 117–140.
- Gilliland, S. W. (1993). The perceived fairness of selection systems: An organizational justice perspective. *Academy of Management Review*, 18, 694–734. doi:10.2307/258595
- Goldsmith, D., & Albrecht, T. (1993). The impact of supportive communication networks on test anxiety and performance. *Communication Education*, 42, 142–158. doi:10.1080/03634529309378921
- Gouldner, A. W. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review*, 25, 161–178. Retrieved from <http://media.pfeiffer.edu/lridener/courses/NORMRECP.HTML>
- Han, J., & Collins, C. J. (2002). The effects of company recruitment practices on job seekers' perceived employment brand equity and intentions to pursue job opportunities. *Academy of Management Proceedings*, 62, 1–6. Retrieved from http://works.bepress.com/christopher_collins/23
- Hansford, B. C., & Hattie, J. A. (1982). The relationship between self and achievement/performance measures. *Review of Educational Research*, 52, 123–142. doi:10.3102/00346543052001123
- Hogg, M. A. (2000). Subjective uncertainty reduction through self-categorization: A motivational theory of social identity processes. *European Review of Social Psychology*, 11, 223–255. doi:10.1080/14792772043000040
- Huesmann, L. R. (1998). The role of social information processing and cognitive schema in the acquisition and maintenance of habitual aggressive behavior. In R. G. Geen and E. Donnerstein (Eds.), *Human aggression: Theories, research, and implications for social policy* (pp. 73–109). New York, NY: Academic Press.
- Leete, L. (2000). Wage equity and employee motivation in nonprofit and for-profit organizations. *Journal of Economic Behaviour and Organization*, 43, 423–446. doi:10.1016/S0167-2681(00)00129-3
- Lind, E. A., & Van den Bos, K. (2002). When fairness works: Toward a general theory of uncertainty management. *Research in Organizational Behavior*, 24, 181–223. doi:10.1016/S0191-3085(02)24006-X
- McCarthy, J. M., & Goffin, R. D. (2005). Selection test anxiety: Exploring tension and fear of failure across the sexes in simulated selection scenarios. *International Journal of Selection and Assessment*, 13, 282–295. doi:10.1111/j.1468-2389.2005.00325.x
- McFarlin, D. B., & Sweeney, P. D. (1992). Distributive and procedural justice as predictors of satisfaction with personal and organizational outcomes. *Academy of Management Journal*, 35, 626–637. doi:10.2307/256489
- Mikula, G., Petri, B., & Tanzer, N. (1990). What people regard as unjust: Types and structures of everyday experiences of injustice. *European Journal of Social Psychology*, 20, 133–149. doi:10.1002/ejsp.2420200205
- Oostrom, J. K., Born, M. P., Serlie, A. W., & Van der Molen, H. T. (2010). Effects of individual differences on the perceived job relatedness of a cognitive ability test and a multimedia situational judgment test. *International Journal of Selection and Assessment*, 18, 394–406. doi:10.1111/j.1468-2389.2010.00521.x
- Pornpitakpan, C. (2004). The persuasiveness of source credibility: A critical review of five decades' evidence. *Journal of Applied Social Psychology*, 34, 243–281. doi:10.1111/j.1559-1816.2004.tb02547.x
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, 36, 717–731. doi:10.3758/BF03206553
- Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, 42, 185–227. doi:10.1080/00273170701341316
- Proost, K., Derous, E., Schreurs, B., Hagtvet, K. A., & De Witte, K. (2008). Selection test anxiety: Investigating applicants' self- vs other-referenced anxiety in a real selection setting. *International Journal of Selection and Assessment*, 16, 14–26. doi:10.1111/j.1468-2389.2008.00405.x
- Putwain, D. W. (2009). Situated and contextual features of test anxiety in UK adolescent students. *School Psychology International*, 30, 56–74. doi:10.1177/01430343080101850
- Rabin, M. (1993). Incooperating fairness into game theory and economics. *The American Economic Review*, 83, 1281–1302.
- Reber, R. S. (1995). *The Penguin dictionary of psychology*. 2nd ed. London, UK: Penguin.
- Rynes, S. L. (1991). Recruitment, job choice, and post-hire consequences: A call for new research directions. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organization psychology* (2nd ed., pp. 399–444). Palo Alto, CA: Consulting Psychologists Press.
- Rynes, S. L., Bretz, R. D. J., & Gerhart, B. (1991). The importance of recruitment in job choice: A different way of looking. *Personnel Psychology*, 44, 487–521. doi:10.1111/j.1744-6570.1991.tb02402.x
- Salancik, G. R., & Pfeffer, J. (1978). A social information processing approach to job attitudes and task design. *Administrative Science Quarterly*, 23, 224–253. doi:10.2307/2392563
- Sanchez, R., Truxillo, D. M., & Bauer, T. N. (2000). Development and examination of an expectancy-based measure of test-taking motivation. *Journal of Applied Psychology*, 85, 739–750. doi:10.1037/0021-9010.85.5.739
- Sarason, I. G. (1978). The Test Anxiety Scale: Concept and research. In C. D. Spielberger & I. G. Sarason (Eds.), *Stress and anxiety* (pp. 193–216). New York, NY: Hemisphere/Wiley.
- Schmit, M. J., & Ryan, A. M. (1997). Applicant withdrawal: The role of test-taking attitudes and racial differences. *Personnel Psychology*, 50, 855–876. doi:10.1111/j.1744-6570.1997.tb01485.x
- Schuler, H. (1993). Social validity of selection situations: A concept and some empirical results. In H. Schuler, J. L. Farr, & M. Smith (Eds.), *Personnel selection and assessment: Individual and organizational perspectives* (pp. 11–26). Hillsdale, NJ: Lawrence Erlbaum.
- Searle, R. H., & Billsberry, J. (2011). The construction and destruction of trust during recruitment and selection. In Searle, R. H. and Skinner, D. (Eds.) *Trust and Human Resource Management*. Chichester, UK: Edward Elgar.
- Searle, R. H., Weibel, A., & Den Hartog, D. N. (2011). Employee trust in organizational contexts. In G. P. Hodgkinson & J. K. Ford (Eds.), *International Review of Industrial and Organizational Psychology* (Vol 26, pp. 143–191). Chichester, UK: Wiley-Blackwell.
- Seipp, B. (1991). Anxiety and academic performance: A meta-analysis of findings. *Anxiety Research*, 4, 27–41. doi:10.1080/08917779108248762
- Siegrist, J. (1996). Adverse health effects of high-effort/low-reward conditions. *Journal of Occupational Health Psychology*, 1, 27–41. doi:10.1037/1076-8998.1.1.27
- Spence, A. M. (1973). Job market signaling. *Quarterly Journal of Economics*, 87, 355–374. doi:10.2307/1882010
- Spielberger, C. D. (1966). *Anxiety and behaviour*. New York, NY: Academic Press.
- Spielberger, C. D., Gorsuch, R. L., & Lushene, R. E. (1970). *Manual for the State-Trait Anxiety Inventory*. Palo Alto, CA: Consulting Psychologist Press.
- Stiff, J. B., Dillard, J. P., Somera, L., Kim, H., & Sleight, C. (1988). Empathy, communication, and prosocial behavior. *Communication Monographs*, 55, 198–213. doi:10.1080/03637758809376166
- Turban, D. B., & Cable, D. M. (2003). Firm reputation and applicant pool characteristics. *Journal of Organizational Behavior*, 24, 733–751. doi:10.1002/job.215
- Turban, D. B., Forret, M. L., & Hendrickson, C. L. (1998). Applicant attraction to firms: Influences of organization reputation, job and organizational attributes, and recruiter behaviors. *Journal of Vocational Behavior*, 52, 24–44. doi:10.1006/jvbe.1996.1555
- Tyagi, P. K. (1990). Inequities in organizations, salesperson motivation and job satisfaction. *International Journal of Research in Marketing*, 7, 135–148. doi:10.1016/0167-8116(90)90017
- Van Hove, G., & Lievens, F. (2007). Social influences on organizational attractiveness: Investigating if and when word-of-mouth matters. *Journal of Applied Social Psychology*, 37, 2024–2047. doi:10.1111/j.1559-1816.2007.00249.x
- Van Hove, G., & Lievens, F. (2009). Tapping the grapevine: A closer look at word-of-mouth as a recruitment source. *Journal of Applied Psychology*, 94, 341–352. doi:10.1037/a0014066
- Van der Ploeg, H. M., Defares, P. B., & Spielberger, C. D. (1980). *Handleiding bij de zelf-beoordelings vragenlijst ZBV. Een Nederlandstalige bewerking van de Spielberger State-Trait Anxiety Inventory*. [Manual for the Self-Rating Questionnaire ANC. A Dutch adaptation of the Spielberger State-Trait Anxiety Inventory STAI-DY]. Lisse, The Netherlands: Swets & Zeitlinger.
- Vroom, V. H. (1964). *Work and motivation*. New York, NY: Wiley.
- Wachtel, P. L. (1980). Investigation and its discontents: Some constraints on progress in psychological research. *American Psychologist*, 35, 399–408. doi:10.1037/0003-066X.35.5.399
- Wanberg, C. R., Kanfer, R., & Banas, J. T. (2000). Predictors and outcomes of networking intensity among unemployed job seekers. *Journal of Applied Psychology*, 85, 491–503. doi:10.1037/0021-9010.85.4.491
- Wolf, L. F., & Smith, J. K. (1995). The consequence of consequence: Motivation, anxiety, and test performance. *Applied Measurement in Education*, 8, 227–242. doi:10.1207/s15324818ame0803_3
- Zeidner, M. (1998). *Test anxiety: The state of the art*. New York, NY: Plenum Press.