Avoiding Intrusions at the Office: Privacy Regulation on Typical and High Solitude Days

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Laboratory experiments suggest that individuals are reluctant to ask others to leave them alone unless aspects of the situation support their doing so and that some modes of making the request are more comfortable than others. The present study produced similar findings and also extended our understanding of privacy processes. Some 42 school administrators completed a questionnaire about their job activities, job stresses, and their privacy regulation mechanisms. They also provided maps of their offices. As expected, people tended to avoid using privacy mechanisms that involved direct rejection of the individual. Also as expected, mechanisms were used most often when their use could be justified by some aspect of the situation, in this case particular job demands. That is, (a) individuals who experienced job demands requiring solitude (as opposed to more psychological job demands, such as role uncertainty) were most likely to use behavioral privacy regulation mechanisms, and (b) use of both direct and indirect mechanisms increased from typical days to occasions requiring solitude. Results also confirmed the hypotheses that (a) the mechanisms would be used in combinations, including environmental and interpersonal combinations, and (b) the cohesiveness of the combinations would increase with job demands. This article supports the view that privacy mechanisms are used selectively (some used more than others) and in combinations, and are used primarily when the situation supports their use.

According to Altman (1975/1981), privacy regulation is a multilevel and dynamic process by which individuals control their contact with others. That is, individuals can use a variety of mechanisms from several modes of

communication to achieve privacy. Furthermore, the level of privacy desired and active efforts to achieve that level change with different circumstances. Although there is consensus that privacy regulation is important to individual well-being and that unwanted interruptions are a problem at the office, little work has examined how people actually achieve their privacy goals. This article examines how people achieve solitude.

Laboratory research on how individuals respond to an intrusion by a stranger suggests that people are reluctant to ask another person to leave unless they are supported by situational cues, such as a pressing task and "do not disturb sign" (Haggard & Werner, 1990; Kelly & Werner, 1990). The work also suggests that people prefer to communicate their desire for privacy as politely and subtly as possible, often regulating their privacy with indirect hints rather than direct requests that the intruder leave. And finally, people often felt uncomfortable about communicating their privacy needs, especially those who simply asked the person to leave compared to those who were able to offer the intruder a more comfortable waiting area.

This article extends the laboratory work and examines privacy regulation processes in the workplace. Although there are considerable differences between an encounter involving an undergraduate stranger in a temporary territory and day-to-day privacy strategies among co-workers, some of the underlying principles may be the same. In particular, we examine whether indirect requests are preferred over direct privacy regulation mechanisms, whether the use of mechanisms increases with situational support (i.e., when job demands are chronically and temporarily high), and whether mechanisms are used in combination.

PREFERENCE FOR INDIRECT MECHANISMS

There is a growing body of evidence to suggest that people are reluctant or unable to use direct messages when regulating their solitude. For example, individuals who discovered an interloper in their temporary territory left rather than confront the intruder, confronted after some hesitation (Haber, 1980), or confronted only if the territory was highly desirable (Taylor & Brooks, 1980). In addition, residents of highly populated dormitories reported difficulty in controlling interactions with strangers (Baum, Aiello, & Calesnick, 1978). Indeed, one reason for preferences for private offices may be that they can provide protection against unwanted interruptions (Sundstrom, Burt, & Kamp, 1980; Sundstrom, Town, Brown, Forman, & McGee, 1982). These studies lead to the hypothesis that people avoid directly asking someone to leave them alone but instead use mechanisms that enable them to avoid the interruption completely or that communicate indirectly their preference for solitude.

Privacy regulation is situation specific. One manifestation of this reluctance or inability to confront intruders is that privacy mechanisms tend not to be used routinely but, rather, when the situation clearly warrants or supports their use, such as when there are relevant organizational rules, particular work demands, and so on. Along these lines, Haggard and Werner (1990) found that people were more likely to ask the intruder to leave when a conspicuous sign and chair combined to suggest that the intruder should wait outside; furthermore, when asking the individual to leave, they tended to use fewer personal or "selfish" reasons (i.e., their need to do well on the task) when there was external justification for asking the intruder to leave (e.g., "there is a seat for you outside"). Thus, we hypothesized that (a) the routine use of privacy regulation mechanisms should be associated with job duties that require solitude but not with other kinds of duties; (b) people with chronic need for solitude should arrange their offices so as to discourage casual interruptions; and (c) use of the mechanisms should increase at times when people do not wish to be interrupted, regardless of their particular job duties.

COMBINATIONS OF MECHANISMS

We also proposed that mechanisms would be used in combination, especially when a clear message is necessary. Altman and his colleagues (Altman, 1977; Altman & Taylor, 1973; Keiser & Altman, 1976) proposed that people use cues in coherent combinations, rather than as isolated bits of information. Similarly, Wicker (1979) suggested that multiple, redundant cues would be used for communicating in situations where a more forceful message was needed. In support of this, Werner, Brown, and Damron (1981) found that temporary territories were less likely to be intruded on if the owner used a coherent and consistent set of nonverbal cues rather than inconsistent cues.

In the case of interruptions in the office, it is easy to see how a message can be more clear and forceful if the same message is communicated in several ways. For example, if an individual both asks his or her secretary to screen visitors and closes his or her office door, a potential visitor should be more convinced that the person is busy than if either message had been used alone. Especially among co-workers, where friendship patterns and routines enhance accessibility, multiple cues may be necessary to deter intrusions. Thus, we expect people to use combinations of mechanisms involving verbal, nonverbal, and physical environmental cues, and the coherence with which the cues are used should increase when they do not wish to be interrupted. Note that whereas the previous hypothesis called for an increase in the likelihood of using any mechanism, the coherence hypothesis

calls for an increase in their interrelatedness (e.g., increase in intercorrelations or increase in use of combinations of cues as revealed in a pattern analysis).

In particular, we were interested in the relationship between office arrangement and the behavioral mechanisms. Although office arrangement alone might discourage unwanted interruptions, it could be part of a larger pattern, and an office arranged to discourage interruptions could easily be related to more transient privacy mechanisms. One question is whether offices are arranged to achieve the level of privacy desired on a typical day or to achieve the level of privacy desired when solitude is required. Another question is whether office arrangement fits into a pattern with direct or indirect mechanisms.

METHOD

Participants

Male (n = 19) and female (n = 23) administrators and coordinators from a large metropolitan school district participated in the study. The participation rate was high (>80%) because of interest in job-related stress levels and health outcomes. To ensure confidentiality, we did not ask for respondents' specific job titles and responsibilities. The group included curriculum planners for all levels of education, several audiovisual specialists, music specialists, and so on. Their ages ranged from 25 to 62 years (M = 48.34), and they had held their current job for an average of 7.0 years.

Job Demands

In order to tap their job pressures, we used a questionnaire developed for school administrators by Koch, Tung, Gmelch, and Swent (1982) that has four known job pressure factors, three being psychological in character and one being more time based: *Role-Based Stress* (uncertainty about job responsibilities and evaluative criteria), *Boundary-Spanning Stress* (working with problems outside the school system), *Conflict Mediation Stress* (e.g., parent–school conflicts), and *Task-Based Stress* (too much to do in too little time). Respondents indicated on 5-point scales ranging from *rarely/never* (1) to *frequently* (5) how much these job demands bothered them. Only Task-Based Stress contained items indicating that the respondent needed to work alone; therefore, only that factor was expected to be related to the everyday use of privacy mechanisms.

Privacy Mechanisms

Behavioral mechanisms. The questionnaire contained eight behavioral mechanisms one might use to avoid interaction with others. The mechanisms were generated by the researchers and a school administrator from a district not involved in the present project. Two mechanisms involved a direct rejection of the visitor (the respondent speaks with the visitor), and the remainder were indirect rejections, such as ignoring knocks on the office door or using the secretary as a buffer (i.e., the secretary, not the respondent, asks the caller to go away; see Table 1). Most respondents (95%) had private offices, so the mechanisms tapped behaviors one could do in a private room. In addition, all had access to a secretary or receptionist who could screen telephone calls and outside visitors.

TABLE 1
Reported Use of Behavioral Mechanisms on Typical and Busy Days

	Typical Day	Solitude Required
Direct rejection		
Asks people to call or come back	8%	28%
Asks unexpected visitors		
to schedule with secretary	13%	31%
Mean across items on 5-point scale	1.29	1.81
Indirect rejection		
Comes early/stays late[a]	88%	75%
Closes office door	20%	63%
Secretary holds calls and asks visitors		
to come back later	15%	53%
Goes to a hideaway	8%	23%
Unplugs/ignores telephone	8%	13%
Ignores knocks on the office door	3%	5%
Mean across items on 5-point scale	2.03	2.39
Direct and Indirect		
m	1.55	2.21

Note. Data are percent reporting usage, that is, ratings of more than 3 on a 5-point scale ranging from *never/rarely* (1) to *always* (5).

Because of the skewed distributions on several variables on the 5-point scale, MANOVAs are difficult to interpret, and averaged scores were used for data analysis. For the interested reader, separate repeated measures MANOVAs on the direct and indirect items indicated significant increases in likelihood of use from typical, $F(2, 37) = 9.43$, $p < .001$, to solitude-desired days, $F(6, 33) = 13.52$, $p < .001$ (omitting five participants with missing data). All but three of the univariate Fs were also significant (all but come early, ns; unplug telephone, $p < .06$; ignores knocks, $p < .10$).

To protect the Type I error rate, item-by-item analyses were not done for the "percent using" indices (ratings of 3 or greater).

[a]Some people stayed home when they desired solitude, hence the decrease in this variable from typical to solitude occasions.

Respondents were instructed to think about their work habits and then indicate on 5-point scales how frequently they used each "work strategy" on a typical day, and then how frequently they used each when they did "not want to be interrupted." Respondents could also add their own mechanisms; however, this occurred too rarely to permit analysis. In this article, most results are based on the 5-point rating scales, referred to as *ratings* or *likelihood of using*. On occasion we used a use–no use index, which we refer to simply as *use*.

Environmental mechanisms. Subjects next drew maps of their offices, indicating doors, chairs, desk, windows, and other major pieces of furniture (measurement of the offices was prohibited so that participants' work would not be disrupted and to reduce fears that the questionnaire responses would be identifiable). The central question asked about the office arrangements was their ability to reduce the chances that the respondent would be distracted by passers-by or vulnerable to casual drop-in visits. A person whose back was to the door when seated at his or her desk was considered to be least distractable.

Examination of the maps indicated that none of the participants had physical barriers between their desk and doorway, so we used a simple measure of how many degrees they would have to turn their heads in order to see or be distracted by someone standing in their doorway: zero degrees indicated that they could see their doorway sitting at their desks, looking straight ahead (reliability between two raters = .91). We also measured the angle from their seated positions to their windows as an index of how protected they were from outside passers-by; however, the two indices were not related, $r(38) = .08$, ns, so only the desk-to-doorway index was used. Several people wrote on their maps that their windows provided an attractive view, so privacy concerns were probably not a strong factor in their selection of desk-to-window orientations.

Data analysis. Mean ratings across direct and indirect mechanisms were calculated and submitted to a 2 (Typical Day/Solitude Required) × 2 (Direct/Indirect Behavioral Mechanisms) repeated measures analysis of variance (see also, note in Table 1). Other analytic strategies are described with the results, including analyses of the office arrangements, analyses of job requirements, and so on.

RESULTS

Preferred Mechanisms

Table 1 shows how frequently each mechanism was used, where *use* is defined as a rating of 3 or greater on the 5-point scale. Examination of this table indicates that participants avoided three indirect behavioral mecha-

nisms (hiding, and ignoring knocks and phone calls). Although their underuse works against the hypothesized preference for indirect mechanisms, they were retained in analyses to be conservative.

Consistent with the laboratory research, people tended to avoid using mechanisms that involved direct requests to leave. Mean overall rating on the 5-point scale for the direct mechanisms was 1.66, compared to 2.10 for the indirect mechanisms, repeated measures, $F(1, 39) = 19.23, p < .001$. The preference existed both on typical days and at times when participants did not wish to be interrupted, interaction $F(1, 39) < 1$; that is, as expected, at times when people might have been tempted to increase disproportionately their likelihood of using direct mechanisms, they did not.

Privacy Mechanisms are situation specific

Privacy regulation is job specific. As hypothesized of the four dimensions of chronic, ongoing job pressures that we measured, the likelihood of using any of the behavioral mechanisms on a typical day correlated only with Task-Based job pressure (too much to do in too little time), and both direct and indirect mechanisms yielded significant associations (both $ps < .003$). In contrast, Role-Based, Boundary-Spanning, and Conflict Mediation stress (job pressures not linked to a chronic need for solitude) showed little association with typical day privacy mechanisms.[1] As might be expected, this pattern was limited to typical work days: At times when no one wanted to be interrupted (whether because of a need for confidentiality, a need to concentrate, or a need to finish a pressing task), likelihood of using the behavioral mechanisms was not associated with particular job demands (although there was an unexpected and marginally significant inverse effect that is not considered here).

Contrary to expectations, Task-Based job pressures are not associated with office arrangements that discourage casual interruptions (although that kind of job pressure yields a stronger correlation with office arrangement than do the other kinds). So people who report being in jobs requiring solitude are not more likely to arrange their offices so as to achieve that goal.

Privacy regulation is transient. As can be seen in Table 1, participants reported an increased likelihood of using mechanisms when they did not wish to be interrupted. The change from typical ($M = 1.55$) to solitude occasions ($M = 2.21$) was significant, repeated measures, $F(1, 39) = 29.37$, $p < .001$, providing additional support for the idea that privacy regulation is used selectively.

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[1]As noted with other variables in this article, the pattern of correlations seems not to be solely an artifact of low variances (Guilford & Fruchter, 1978). The variances are as follows: Role Based, 39.9; Task Based, 42.39; Boundary Spanning, 10.03; and Conflict Mediation, 4.2.

TABLE 2
Correlations Among Privacy Mechanisms, Office Arrangement, and Job Demands

	Job Demand				Office Arrangement
	Role (.88)	Task (.80)	Boundary Spanning (.56)	Conflict Mediating (.57)	Desk-to-Door Angle
Behavioral privacy mechanisms					
Typical day					
Direct	− .09	.43*	.15	.16	.05
Indirect	− .03	.47*	.18	.12	.27*
Solitude desired					
Direct	− .22†	.02	.06	.03	.04
Indirect	− .15	.17	− .04	.03	.24†
Office arrangement					
Desk/door angle	− .01	.19	− .03	− .05	

Note. Cronbach's alpha for the job stress items are in parentheses. Data for those scales and for the direct and indirect mechanisms are means across the items.

$^{†}p < .10.$ $^{*}p < .05.$

Privacy Regulation Involves Combinations of Variables

Behaviors and furniture orientation. On typical days, the use of *in*direct behavioral mechanisms is complemented with furniture arrangement in the office environment, with a marginally significant association on solitude-desired occasions (see Table 2). That is, privacy behaviors are used in combination with the physical environment: The likelihood of using indirect mechanisms is correlated with the index of environmental privacy, such that a high likelihood of using indirect mechanisms is associated with a desk facing away from the door ($p < .05$ for typical day, and $p < .10$ for solitude required). Use of direct mechanisms is not significantly correlated with furniture arrangement on typical or solitude-desired days. The significant correlation[2] between office arrangement and typical day indirect mechanisms suggests that office arrangement may serve as an indirect mechanism — a polite way of not being bothered on a day-to-day basis.

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[2]This pattern of correlations is all the more compelling given the pattern of variances for these variables and the problem of low variances as a possible artifact in correlation coefficients (Guilford & Fruchter, 1978). For the averaged ratings of typical day mechanisms, the variances for direct and indirect mechanisms are almost identical (.22 and .23, respectively), and yet their correlations with door angle are quite different; for solitude-desired occasions, the direct mechanism variance is almost twice that of the indirect mechanisms (1.29 vs. .68), yet the indirect mechanisms yielded the higher correlation coefficient.

Combinations of behavioral mechanisms. The final question is whether and how the behavioral mechanisms fit together. One strategy for assessing this is the correlational approach used earlier for the behavior/desk orientation combination. Table 3 shows several correlational measures (Cronbach's alpha, average intercorrelation, and the number of significant correlations) as convergent indices of the extent to which mechanisms are used in combinations.

On typical work days, there was little evidence of coherence, with only modest intercorrelations for the indirect mechanisms and no coherence for the two direct mechanisms. In contrast — and congruent with the hypothesis that mechanisms would be used in combination when solitude was highly desirable and a clear, strong message was needed — cohesiveness was evident for both the indirect and direct mechanisms on solitude-desired occasions. Indeed, a comparison of the mean interitem correlations between typical and solitude-desired times yielded a significant increase for the direct mechanisms, $t(37) = 5.37, p < .001$, but not for the indirect mechanisms, $t(37) < 1$.

The overall pattern (increased alpha and correlation coefficients, increase in proportion of significant correlations, and a significant increase in correlations for direct mechanisms) supports the idea that participants responded to changing job demands with a broader combination of mechanisms.

The increased coherence hypothesis is based on correlations, an index

TABLE 3
Degree of Coherence of Behavioral Mechanisms: Correlational Strategy

	Cronbach's Alpha	Average Intercorrelation r(38)	Number of Significant and Possible Correlations
Typical day			
Direct	−.06	−.02	0 of 1
Indirect	.59	.24†	5 of 15
Solitude desired			
Direct	.87	.74*	1 of 1
Indirect	.71	.32*	10 of 15

Note. In the absence of significance tests for alpha coefficients, we provide the average *r* and number of significant *r*s for each set of mechanisms. The low association between direct mechanisms on a typical day indicates that the two behaviors are independent. The correlation between this scale and Task-Related job pressures shown in Table 2 is largely due to the individual asking the intruder to come back at a later time, $r(37) = .39, p < .007$, rather than sending him or her to the secretary to make an appointment, $r(38) = .17, p < .15$.
$^\dagger p < .10.$ *$p < .05.$

that can be affected by restriction of range and low variances.[3] As a more specific indicator of coherence and one not compromised by problems of restricted range, we undertook a pattern analysis, or an examination of specific combinations of privacy mechanisms (cf. Keiser & Altman, 1976; Werner, Brown, & Damron, 1981). For this analysis, we again defined *use* as a rating of 3 or greater on the 5-point scale. First, whereas many people ($n = 24$, or 60.0%) reported using a single mechanism on typical days, only 7 (17.5%) did so on days requiring solitude. For the multivariate analysis of variance (MANOVA) typical versus solitude, where dependent variables are averaged-direct and averaged-indirect mechanisms, $F(2, 40) = 12.86, p < .001$ (both univariate Fs were significant). In other words, on busy days, people used combinations of variables. Further examination of the data indicated that 10 used two mechanisms, 6 used three mechanisms, 7 used four mechanisms, and 7 used five or more mechanisms.

With respect to particular patterns, for indirect mechanisms the pattern analysis indicated no clearly preferred combinations on typical days; however, there was a more clear pattern on days requiring solitude. On such days, 14 people (35%) reported using the three-way combination of closing their office door, using the secretary as a buffer, and working early or late. As would be expected from the high base rates of those three mechanisms, the two-way combinations derived from them were also used rather frequently (by 43%, 48%, and 48% of the participants, with the latter two combinations involving working early or late). Other two- and three-way combinations were also used; however, they and the four-way combinations were used much less frequently (between 13% and 20% of the time). Similar examination of the direct mechanisms showed no joint usage whatsoever on typical days and 7 people (17.5%) using both direct mechanisms on solitude-required days. Thus, both the correlational and pattern analyses show that people added mechanisms to their repertoire on busy days and did not simply increase their likelihood of using a single preferred mechanism. Further, the pattern analysis showed some widely used combinations, and indicated that different people chose different combinations.

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[3]Indeed, all but one of the variances from solitude-desired days were significantly greater than their counterparts from typical days—$t_{dep}(38)$s ranged from 1.97 to 12.54, with most between 4.0 and 5.0—raising concerns that the increased correlations are not "real" but result from artifacts in the data; for $\alpha = .05$, the critical value of $t(38) = 2.02$. Guilford and Fruchter (1978) provided ways of correcting Pearson rs based on restricted ranges; however, we reject the idea that the variances on typical days are low because they represent a restricted range of scores and, instead, argue that they accurately reflect the true variance of scores in the population. This does not eliminate the artifact problem, but it does suggest that corrected correlation coefficients would be neither correct nor informative. Instead, we used the pattern analysis to converge with the correlation analyses to support the idea of increased coherence.

DISCUSSION

The results indicate that the use of privacy regulation mechanisms is selective, supported by both chronic and transient situational pressures, and that behavioral and environmental strategies are used in combinations. Selectivity was evidenced in the preference for indirect rather than direct privacy regulation mechanisms and in the (unexpected) low reports of using some indirect mechanisms. With respect to situational support, respondents reported that they would use behavioral mechanisms primarily when they experienced chronic or temporary job demands that necessitated solitude.

Respondents reported using combinations of behavioral mechanisms, especially when desiring solitude, supporting our hypothesis that multiple, convergent cues would be preferred. This conclusion is supported by a variety of indices, including correlational strategies and a pattern analysis. Pattern analysis is a seldom used strategy, but one that should prove fruitful in other lines of research. In this study, we used any patterns as evidence that people reported using combinations of mechanisms; in future work, it may be possible to develop and test hypotheses about particular combinations of mechanisms, such as which will be used in combination, which combinations will be most effective at deterring intrusions, and so on.

A particularly interesting combination is that between desk orientation and the indirect mechanisms. Desk orientation can function as an indirect mechanism in that having one's back to the door allows casual visitors to infer that one is busy, thereby obviating the need for direct regulation; in addition, office arrangement is fairly permanent. So it makes sense that desk orientation would correlate most strongly with typical day indirect mechanisms. The correlation is particularly remarkable because so many other factors can contribute to how one arranges one's desk (e.g., size and shape of room, locations of windows and other fixed features, etc.). Also working to reduce the correlation is the fact that the behavioral mechanism of closing one's door can substitute for a secluding office arrangement, yet respondents tended to use both: typical day "likelihood of closing door" with door angle, $r(38) = .23$, $p < .07$; solitude desired "likelihood of closing door" with door angle, $r(38) = .25$, $p < .06$. So there is some evidence that people arrange their offices so as to achieve comfortable day-to-day levels of privacy.

On the other hand, there is not complete symmetry: Chronic Task-Based job pressures were not associated with desk orientation, although they were associated with the use of indirect behavioral mechanisms. What this might mean is the operation of a strong individual difference in privacy needs and strategies. That is, one explanation for this pattern is that of a personal preference for privacy that is manifested in office arrangement and other behavioral cues and that is responsive to — but also operates in addition to —

job demands (e.g., see Hensley, 1982, and McElroy, Morrow, & Ackerman, 1983, for work on personality and office arrangement).

One potential criticism of this study is that participants may have responded with socially desirable answers. Indeed, consistent with the desirability hypothesis, job demands were correlated with reported likelihood of using privacy mechanisms but not with the furniture arrangement, a variable that is less amenable to social desirability than questionnaire responses. However, social desirability notions cannot account for the total configuration of data. If the results were due simply to demand characteristics and social desirability, we would expect all job pressures (not just task-related ones) to be correlated with use of privacy mechanisms, and we would also expect stronger rather than weaker correlations between job demands and use of mechanisms when solitude is needed and no differences in the correlations between office arrangement and type of mechanism being used.

There are several questions that this article does not answer that should be considered in future research. For example, we asked people what they did when they did "not want to be interrupted" in order to include a variety of reasons for desiring solitude (e.g., confidentiality, concentration, time deadlines); it may be that privacy mechanisms may be used differently for these different kinds of solitude needs. Another question is whether the levels of privacy regulation and the preferences for certain kinds of mechanisms would generalize to other situations. A contextual theory of privacy suggests that different circumstances lend themselves to different strategies. So, for example, a job setting that did not provide secretaries as buffers might yield a different configuration of mechanisms, as might an open office plan; a job setting that provided hiding places might yield an increase in the use of that mechanism; and so on. At the same time, we expect other findings to generalize, such as the interrelatedness of mechanisms, and their increase in use and coherence with increased need for solitude. Another prospect for future research is to ascertain whether privacy mechanisms help individuals to avoid unwanted interruptions. Unfortunately, the design of this study did not allow us to evaluate the effectiveness of the mechanisms at preventing intrusions: We have no way of knowing how often people would be interrupted if their behavioral and environmental mechanisms were not in place.

This article contributes to a growing body of literature on privacy regulation by supporting laboratory findings that people prefer to use indirect mechanisms and use mechanisms primarily when the situation warrants it. The article also provides support for the view that privacy regulation can involve cues from different levels of functioning and that the use of multiple mechanisms increases when the need for privacy is greater and when perhaps a clearer message is needed.

ACKNOWLEDGMENTS

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