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Effects of non-task-related thoughts on attributed boredom, job satisfaction and task perceptions

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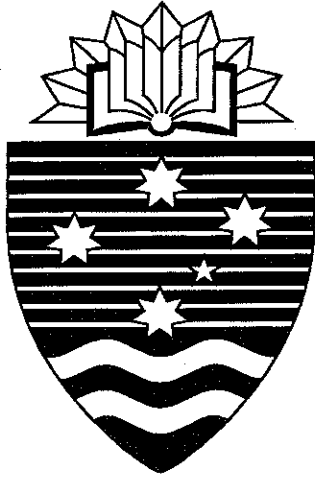
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**"Effects of Non-Task-Related Thoughts on
Attributed Boredom, Job Satisfaction and Task
Perceptions"**

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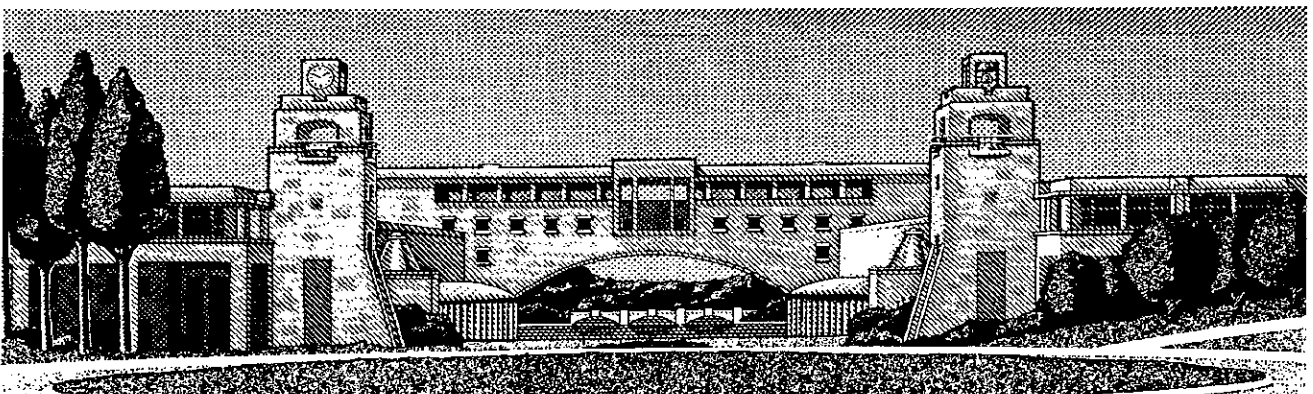
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B O N D U N I V E R S I T Y

**EFFECTS OF NON-TASK-RELATED THOUGHTS ON ATTRIBUTED
BOREDOM, JOB SATISFACTION, AND TASK PERCEPTIONS**

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EFFECTS OF NON-TASK-RELATED THOUGHTS ON ATTRIBUTED BOREDOM, JOB SATISFACTION, AND TASK PERCEPTIONS

ABSTRACT

It has been suggested that distraction and mind-wandering are related, perhaps causally, to the experience of boredom. This study assessed the impact of frequency and justifiability of non-task-related thoughts by job incumbents on observers' attributions about incumbent boredom, job satisfaction, and perceptions of task characteristics. Job level was also manipulated. It was predicted that more frequent and less justifiable non-task-related thoughts would be associated with attributions of greater boredom, less satisfaction, and poorer job characteristics, especially for higher level jobs. The results supported the predictions for the effects of frequency and justifiability of non-task-related thoughts on boredom and satisfaction for both job levels.

Historically, researchers have assumed that the main influences on whether or not a task is experienced as boring are objective attributes of the task itself, such as complexity or rate and variability of stimuli. However, boredom is also influenced by a number of personal and contextual factors, including personality (Farmer and Sundberg, 1986), perceptions of personal versus external causality, (c.f. Deci & Ryan, 1985; Troutwine & O'Neal, 1981), and cues about the apparent passage of time (London & Monell, 1974). Recent research has shown that other task reactions, like job satisfaction and perceptions of task characteristics, are also influenced by a host of non-task factors (c.f. Arvey, Carter, & Buerkley, 1991; Griffin, 1983; Kraiger, Billings, & Isen, 1989; Spector, 1992).

This study was motivated by the desire to further explore the effect of one here-to-fore largely ignored possible influence on perceptions of on-the-job boredom, and by extension, on other reactions to the job such as satisfaction and task perceptions. This is the internal phenomenon variously called mind wandering, day dreaming, spontaneous cognitive events, non-task-related thought, stimulus independent thought, or intrusive thought (Antrobus, Singer, & Greenberg, 1966; Gold & Reilly, 1985-86; Klinger, 1977). People experience fairly frequent shifts in thought topics, on average every 5 to 30 seconds (Klinger, 1978; Pope, 1977). Some of these shifts are to thoughts which are unrelated to the present task activity. The incidence of non-task-related thoughts decreases with a more complex task (greater frequency and complexity of stimuli in a signal detection task) and with greater monetary incentives for task performance, but seldom completely disappears (Antrobus, Singer, Goldstein, & Fortgang, 1970; Antrobus et al., 1966).

Boredom and Attentional Difficulties

Several researchers have suggested that attentional difficulties such as mind wandering are central to the experience of boredom (Fisher, 1993; Hamilton, 1981; Leary, Rogers, Canfield, & Coe, 1986). Most of the times that people feel bored, they report not being able to keep their attention on the task at hand, or having to exert considerable effort to keep their attention focused on the task. Damrad-Frye and Laird (1989, p. 316) state that, "the essential behavioral component of boredom is the struggle to maintain attention." Boredom might be considered almost the opposite of the totally and effortlessly focused state called "flow" by Csikszentmihalyi (1975), in which there is complete involvement in the task and no awareness of intrusive thoughts. Thus, feelings of boredom and the frequency of non-task-related thoughts should be positively correlated.

There are at least two underlying mechanism for this prediction. First, a simple vigilance or repetitive task may not require much attention to perform nor provide much stimulation in return for attention. The spare mental capacity of performers may turn to non-task-related thoughts in order to maintain an optimal arousal level (Thackray, R.I., Bailey, J., & Touchstone, R.M., 1977). Individuals may feel bored either because of distraction by non-task-related thoughts which have entered to fill the attentional void, or directly because of the low level of stimulation from the task (see Figure 1).

 Figure 1 About Here

A second mechanism is less dependent on the simplicity or complexity of the task. This view is consistent with the findings that boredom is not limited to performers of simple and repetitive tasks,

but can afflict individuals in quite "enriched" jobs from time to time (Guest, Williams, & Dewe, 1978). In this scenario, anything which causes difficulty in paying attention to the focal task can contribute to boredom. If an individual experiences difficulty in concentrating on a task, he or she makes an attribution about the cause of the difficulty. If there is a logical explanation for being distracted from the task, the performer need not feel bored, but if there is no obvious reason for the attentional difficulties, performers may label their feelings of distraction as boredom and decide that the task must be boring.

The above process was demonstrated in a clever experiment by Damrad-Frye and Laird (1989). They set up three conditions for an auditory task: no distraction (quiet environment), low volume distraction (television playing on low volume in an adjoining room), and high volume distraction (television playing loudly in an adjoining room). The low volume condition was such that subjects seldom noticed the television and did not remark on it as a possible cause of distraction, but in fact it did make their job of listening to the task material more difficult. Subjects in the no distraction condition had few attentional difficulties and hence were not bored. Those in the distraction conditions did have trouble paying attention, but only those in the high volume condition had a clearly salient external cause for their distraction - the unmistakably loud television - and thus did not have to conclude that the task was boring or they were bored in order to explain their attentional difficulty. As predicted, subjects in the low volume distraction condition rated the task as most boring and felt most bored themselves. Thus, it seems likely that anything which distracts one from a task, especially if it does so subtly, could cause a person to label their state as boredom, and to conclude that the task itself is boring and dissatisfying.

Distractions which cause attentional difficulties need not come solely from outside the individual as they did in Damrad-Frye and Laird's study. Attentional difficulties may also occur due to intrusive thoughts or daydreams which are internally generated. As shown on the left side of Figure 1, non-task-related thoughts may occur independent of the nature of the job, and result in the attribution that one is bored and the task is boring. The next section suggests a specific source of non-task-related thought which may frequently affect feelings of boredom on the job.

Current Concerns as a Cause of Attentional Difficulties

Eric Klinger (1977) has devoted two decades to studying patterns of thought content, and has much to contribute to understanding when and why non-task-related thoughts occur. A central concept in Klinger's work is the *current concern*. A current concern is a goal which the person has committed to pursuing. Concerns may be as short term as getting lunch or as long term as career success. Not all current concerns are constantly in the forefront of one's thoughts, but concerns which Klinger's subjects identified as most important on questionnaires or in interviews did tend to occur quite frequently in the themes of thought samples collected at random intervals in the following few days (Klinger, Barta, & Maxeiner, 1980). In fact, about 50% of the thought samples had to do with the two most important concerns nominated by each subject. Other researchers have found that 65% of day dreams are related to important current concerns (Gold & Reilly, 1985-86).

Concerns most likely to be represented in thought are those which are highly valued, likely to be attained, under threat of not being attained, or requiring action in the near future (Klinger et al. 1980). Thoughts about such important concerns may intrude from time to time

when an individual is performing another activity. "A person working on a mental task who is in the grip of a very strong concern about something else will have trouble keeping his or her mind on what he or she is doing--he or she will be fighting a lot of mind wandering."

(Klinger, 1977, p. 61). If these thoughts about current concerns divert attention from the present task, and require an effort of will to return attention to the task, it seems quite possible that performers will feel bored with the task.

Current Concern Content

Some current concerns which disrupt concentration on a given work task may be related to the job, in the form of another work task or deadline unrelated to the current activity. In many cases, however, important current concerns may stem not from the work environment, but from the non-work and family life of the individual involved. Family conflicts or triumphs, upcoming vacations, financial or social worries, or hobby activities may also be sources of non-task-related thoughts if they are sufficiently important or imminent (Klos & Singer, 1981). For instance, Antrobus et al. (1966) found that subjects performing a signal detection task reported many more intrusive thoughts when they had been exposed to a bogus news bulletin about China declaring war on the U.S. in Vietnam just prior to the experiment than when they had not. As expected, the content of most of these thoughts was related to the news bulletin and its anticipated effect on the subjects and their loved ones. In sum, it is expected that non-task-related thoughts will serve to distract performers from their present task and may lead to the task being labelled as boring and the individual feeling bored and dissatisfied with the activity.

The Present Study

There are a number of methodological problems with research on non-task-related thought. Short of the heavy-handed approach used by Antrobus et al., it is difficult to accurately measure and/or induce non-task-related thought. To avoid these difficulties, this preliminary study utilized a role playing methodology. Observers were given information about a target person's supposed task-related and non-task-related thoughts while at work, and were asked to infer the target's affective reactions and task perceptions. Support for this role playing approach is contained in the self-perception literature which suggests that people make self-attributions in much the same way, and from the same type of information, as do observers (Bem, 1972). If the present study verifies that information about non-task-related thoughts is used in inferring the boredom and dissatisfaction of others, the next research step would be to directly manipulate non-task-related thoughts in performers and observe effects on their affective and task reactions.

The hypotheses for this study are described below.

H1: There will be a main effect of amount of distraction on boredom, job satisfaction, and task perceptions, such that those who are portrayed as having more non-task-related thoughts (high distraction) will be seen as more bored, less satisfied, and as possessing a job with less desirable characteristics than those who are portrayed as having fewer non-task-related thoughts.

The Damrad-Frye and Laird (1989) study suggests that it is not just the presence of distraction, but the presence of distraction without an apparently valid reason, that causes perceptions of boredom. Klinger's research suggests that it is legitimate to expect extremely important current concerns to break into on-going thought,

but that less urgent concerns should probably intrude less often - unless the person is already bored and trying to divert themselves from the work task. Thus, a second factor manipulated in this study had to do with the reason for or justifiability of the distracting thoughts. In one case, the reasons were those that most would agree are legitimate or urgent, while in the other the intruding thoughts were related to seemingly minor concerns.

H2: There will be a main effect of reason for distraction on boredom, job satisfaction, and task perceptions, such that those who are portrayed as being distracted by thoughts about unimportant concerns will be seen as more bored, less satisfied, and as possessing a job with less desirable characteristics than those who are portrayed as being distracted by thoughts about clearly important and urgent concerns.

An additional manipulation related to the idea of reason for distraction was also utilized. This was job level. In a low level blue collar job, one may expect a certain amount of mind-wandering or day dreaming, as the job itself would not be expected to provide a great deal of stimulation. Thus, the presence of varying degrees of non-task-related thought, for either good or bad reasons, may not be seen as particularly diagnostic of the affective reactions of incumbents in simple jobs. However, a higher level managerial job should be expected to provide adequate stimulation and thus hold the attention of the incumbent. Increasing levels of non-task-related thoughts, particularly about non-urgent concerns, on a higher level job may be seen as relatively more diagnostic of the attitudes of incumbents, and may thus have a greater effect on perceptions of their boredom and satisfaction.

H3: Level of distraction and/or reason for distraction will interact with job level as specified above.

The dependent variables in this study are ratings of the boredom, job satisfaction, and perceived task characteristics of a focal performer. It is expected that the strongest effects of distraction will occur for boredom, as attentional difficulties are conceptually most closely linked to this response. If a person is not concentrating on his or her work, he or she is likely to be seen as bored with it. Judgments about others' job satisfaction should also be affected by distraction, though probably not as strongly as is boredom. The inference processes underlying this prediction are that 1) individuals who do not like their jobs (for any reason) may desire to escape them by thinking about something else, or 2) jobs which fail to hold their incumbents' full attention may be seen as less satisfying to that individual. The effects of distraction on task perceptions should be weaker, but may exist if the presence of non-task-related thought causes the job itself to be seen as somehow deficient in those characteristics which tend to motivate and sustain attention.

METHOD

Subjects and Procedure

Subjects were full and part-time university students who participated in the study during a regular class period. Ages ranged from 17 to 44 with a mean of 22 years. Eighty-seven percent of the students had some work experience, with an average of 26 months part time and 23 months of full time work. Sixty-six percent of the subjects were male.

A cover story was used to conceal the purpose of the study. Subjects were informed that they would be acting as judges in a study

of a new and less intrusive way to measure employees' job attitudes. Rather than asking job incumbents to respond directly to point-blank questions generated by the researcher, employees were (ostensibly) asked instead to record their activities, thoughts, and feelings each hour during one day at work. The students' role was to serve as judges so that the researcher could find out whether educated lay-people such as themselves were capable of correctly intuiting the actual job attitudes of employees on the basis of a diary.

Subjects were provided with a half-page job description and a copy of a three-page hand-written diary supposedly from an employee holding the specified job. Ten hourly entries were provided, on the hour from 8:00 a.m. to 5:00 p.m. The manipulations were contained in the job description and diary material. After reading this material, subjects rated the target employee's job attitudes and task perceptions.

Design

Factors manipulated included level of distraction (none, moderate, high), reason for distraction (good versus poor), and job level (blue collar, managerial).

Level of Distraction. In the no distraction condition, the incumbent recorded no non-task-related thoughts except during conversations with friends at lunch. The moderate distraction condition included three non-task-related thoughts scattered through the hourly diary for the day plus irrelevant thoughts at lunch, while the high distraction materials contained eight non-task-related thoughts during work time: the same three as in the moderate distraction condition, plus five more related to the same concerns, plus lunch thoughts.

Reason for Distraction. The design included two levels of reason for distraction. The poor reason was operationalized by non-task-related thoughts about the seemingly minor concerns/unimportant events of a son's regular junior soccer game on the weekend and worry about a wife with a slight head cold. Good reasons included non-task-related thoughts about the more pressing concerns of a star junior soccer-playing son with a championship game on the weekend, and about a wife who was feeling quite ill and had a history of recurrent life-threatening illness. The reason levels could not be crossed with the no distraction condition, so there were actually five cells for each job level - two distraction levels by two reason levels plus a no distraction control. The reason manipulation had been piloted successfully (the "good" reasons were seen as more legitimate reasons to be distracted than the "bad" ones), and was verified in this study by a manipulation check item at the end of the questionnaire.

Job Level. Simulated diaries for two job levels were developed. These jobs were based on occupation definitions in the Australian Standard Classification of Occupations (1990). The blue collar job was Storeman while the managerial job (in a similar function) was Supply and Distribution Manager. Subjects read a half page job description prior to reading the diaries, and the specific diary activities mentioned were those typical for the job description given. The actual text of the non-task-related thoughts was identical for both job levels.

Measures

Perceived boredom of the incumbent was assessed with three Likert items, such as "This individual finds the job boring and uninteresting." Coefficient alpha for this scale was .82.

Overall job satisfaction was measured with three items from Hackman and Oldham's (1980) Job Diagnostic Survey answered on a

seven point agree-disagree scale. Coefficient alpha for this scale was .75.

Satisfaction with the work itself was measured with the Work Itself scale of the Job Descriptive Index (Smith, Kendall, & Hulin, 1969). This scale normally uses a three point response format consisting of No, ?, Yes. When employees describe their own jobs, the question mark response is seldom selected. Pilot research for this study showed that some subjects used the question mark quite frequently, probably due to the limited information about the job provided in the stimulus materials. As the purpose of this research was to capture respondents' impressions, it seemed reasonable to force them to record these impressions, even if they were not sure there was enough information to back up each judgment thoroughly. Thus, the question mark response was not included in the scale used in this study. Coefficient alpha for this scale was .70.

Because knowledge about distraction might lead to attributions about aspects of the job itself, and not just the affective reactions of boredom and satisfaction, measures of five core job characteristics from the Job Diagnostic Survey (Hackman & Oldham, 1980) were also collected. Three items per scale were used, each with a 6-point very inaccurate to very accurate response scale. The following coefficient alphas were observed: task identity .71, skill variety .46, feedback .44, autonomy .60, task significance .62. These reliabilities are lower than usual. However, because the subjects had no personal experience and only limited information about the job, some inconsistency in responding is to be expected.

RESULTS

Manipulation Checks

Manipulation checks showed that the distraction manipulation was perceived as intended. A one way analysis of variance on the three distraction levels produced an F of 59.2 ($p < .001$) for the item, "On the day that the employee kept this diary, did the employee seem to be focused on his work, or was he distracted from his work?" A response of 6 was anchored "very focused" while a response of 1 signified "very distracted." Means were as expected, 2.13 for the high distraction condition, 2.95 for the moderate distraction condition, and 4.23 for no distraction.

The reason for distraction manipulation was also perceived as intended. Subjects were asked "If you felt that the employee was less than very focused on his work, would you say that he had good or bad reasons for feeling that way?" A six point scale provided anchor points ranging from 1=no reason to 6=very good reason. A t -test between the two reason conditions produced a t of 5.68 ($p < .001$), with a poor reason mean of 3.07 and good reason mean of 4.21.

Intercorrelations among dependent variables were explored prior to hypothesis testing. Boredom and the two satisfaction measures were correlated between $|.59|$ and $|.63|$. Thus, MANOVAs were run on these three dependent variables prior to univariate analyses.

Intercorrelations among ratings of the five task characteristics were much lower, from $.10$ to $.43$, with a mean of $.26$. It was not considered necessary to conduct MANOVAs on these dependent variables.

Analyses

Hypothesis 1 was tested with 2 (jobs) by 3 (level of distraction) analyses of variance. A MANOVA on the boredom and satisfaction scales showed highly significant effects for job (Wilks Lambda $.856$,

$p < .001$) and for distraction (Wilks Lambda .802, $p < .001$). Univariate ANOVAs were then conducted, and are shown in Table 1. As expected, the managerial job was seen as more satisfying in terms of the work itself, and as less boring than the storeman job. More relevant to Hypothesis 1, level of distraction effects in all three univariate analyses were significant at the .05 level or better, with satisfaction being highest and boredom lowest when no non-task-related thoughts were present, and satisfaction lowest and boredom highest when non-task-related thoughts were at their most frequent. Five analyses of variance were performed for the five task characteristics. The only significant distraction main effect occurred for skill variety ($F 7.23$, $p < .001$), which was highest in the no distraction condition and lowest in the high distraction condition.

Table 1 About Here

The results for affective reactions strongly support hypothesis 1, suggesting that level of distraction, operationalized as number of non-task-related thoughts, is used as a cue in judging the boredom and satisfaction of others. However, this information is apparently less useful in making more distant attributions about task characteristics, as only one of five of these measures was affected by level of distraction.

Hypothesis 2 stated that distraction for an apparently unimportant reason would suggest that the incumbent was more bored or dissatisfied or occupied a less motivating job compared to the same amount of distraction due to more important concerns. Because reason for distraction would not be manipulated in the no distraction condition, the no distraction groups were not used in tests of

hypothesis 2. A 2 (moderate versus high distraction) X 2 (good versus bad reason) X 2 (blue collar versus managerial job) MANOVA on the boredom and satisfaction scales showed significant ($p < .01$) main effects for job and for distraction. The main effect for reason for distraction approached significance ($p < .10$). Univariate ANOVAs on the three dependent variables revealed the expected significant job and distraction effects on all variables, and also significant reason effects for all three scales (see Table 2). Overall job satisfaction and satisfaction with the work itself were greater when a good reason for non-task-related thoughts was present, while boredom was lower when a good reason was present.

ANOVAs on perceived task characteristics showed only one effect involving reason -- a job by reason interaction for task significance. Task significance was highest when distraction was low and the reason for it was good, while all other conditions produced lower and near uniform ratings of task significance.

 Table 2 About Here

Thus, hypothesis 2 was supported with respect to affective reactions toward the job, but was not supported with respect to task characteristics. However, the one interaction observed for a task characteristic is consistent with the hypothesized attribution processes.

Hypothesis 3 suggested that the effects of level of distraction and reason for distraction might be stronger for a higher level than a lower level job. In other words, job level should interact with distraction and/or reason. Neither the three way nor two way interactions involving job level were significant in the MANOVA for

affective reactions, though a univariate job by distraction interaction was very nearly significant ($p < .052$) for satisfaction with the work itself in the three way analyses shown in Table 2. This interaction is in the expected direction. Level of distraction is irrelevant to satisfaction in the blue collar job, but is related to satisfaction in the managerial job, with the work itself being seen as less satisfying when many non-task-related thoughts occur. There were no significant interactions involving job level for any of the task characteristics. In sum, hypothesis 3 did not receive much support.

I also suggested that boredom would be most affected by non-task-related thought, and that job satisfaction and perceptions of task characteristics respectively would be more weakly affected. Inspection of eta-squares for the two way ANOVAs largely supports this pattern. Number of non-task-related thoughts (none, moderate, or high) accounted for 16% of the variance in boredom, 6.8% of the variance in satisfaction with the work itself, and 3.61% of the variance in overall job satisfaction. Non-task-related thoughts accounted for 6.3% of the variance in ratings of skill variety, but less than 1.5% of the variance in other task perceptions.

DISCUSSION

The results showed that observers do use information about the number of and reason for non-task-related thoughts in making attributions about the boredom and job satisfaction of others. People who are portrayed as being more distracted, and being distracted for a less justifiable reason, are seen as more bored and less satisfied. These findings are consistent with the central role given to attention and attentional difficulties in recent research on boredom. The hypothesis that job level might be a moderator, such that distraction

or distraction for a poor reason would be more diagnostic of incumbent attitudes in a higher level job, received very little support. On the other hand, the lack of effect for job level may be taken as evidence for the generalizability of the distraction and reason effects, with the two job scenarios providing replications for hypotheses 1 and 2.

Unlike the findings for affective reactions, distraction and reason for distraction had very few effects on perceptions of task characteristics. This can be explained in several ways. First, the lack of significant results could be due to the lower average reliability of the task characteristics measures. Second, attributions which are internal to the person (boredom, satisfaction) may be made more readily by observers than external attributions to the environment (task characteristics) (Jones & Nisbett, 1972). This is particularly likely to be true in this study as the non-task-related thoughts originated within the person without apparent cuing from the work setting, thus suggesting an internal cause for the distraction. Further, as mentioned in the introduction, there is stronger theoretical reason to expect mind wandering to lead directly to attributions of boredom than to any other state.

A weakness of this study may lie in the role-playing method which was adopted. However, such a method is not without precedent. Greenberg and Eskew (1993) recently reviewed the use of the role playing technique in organizational behavior research, and concluded that it can often be quite useful. Greenberg and Folger (1988) note that role play studies often replicate the results of studies in which subjects are more actively involved.

In this particular study, respondents were presented with information about the thought processes of incumbents which would not normally be available to them. While observers may be able to

notice distraction and inattention while interacting with others, or become aware of non-task-related thoughts which are vocalized by actors, they are seldom presented with such a complete internal history of another's thoughts. The somewhat unusual or artificial nature of the stimuli may be seen as problematic by some readers. However, the results show that this information was used in making judgments about others.

Whether these results generalize to the way individuals would make inferences about their own mental states is a different question. One might assume that respondents made inferences about another person's mental states in much the same way they would make inferences about their own. That is, that they drew on their own experiences regarding the co-occurrence of non-task-related thoughts and boredom. However, further research will be necessary to confirm that non-task-related thoughts are directly associated with boredom in actors themselves. The present results suggest that such research is worth pursuing.

Also worth pursuing is the idea of current concerns and their effect on thought content. Current concerns may provide a useful addition to understanding the process by which work-life affects and is affected by the non-work side of life. Several decades of research on work - non-work relationships have been relatively unproductive. First of all, the research has remained at a fairly global/aggregate level, exploring the relationships between stable and long-term constructs such as job satisfaction and life or family satisfaction. Very little thought as to the process by which one might affect the other has occurred (Lambert, 1990). While there may be long term effects, it seems likely that many work - non-work influences are more immediate. Thinking about an upcoming weekend activity causes

one to be inattentive and perhaps bored at work today, while thinking about an important work meeting tomorrow while at home tonight makes one less interested in (and perhaps bored with) a spouse's conversational overtures.

Future research using idiographic designs will be necessary to clarify the links between an individual's current concerns, the incidence of non-task-related or intrusive thought, and moment-to-moment affective reactions while at work (Alliger & Williams, 1993; Epstein, 1982). Such research will provide a much richer understanding of the real-time experience of work, and how non-work issues affect this experience.

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TABLE 1
Two Way ANOVAs with Significant Distraction Effects^a

Dependent variable	Effect	MS	df	F
Boredom	Job	88.30	1	6.66**
	Distraction	230.35	2	17.37**
	Job X Distraction	8.89	2	.67
	Error	13.26	170	
Overall Satisfaction	Job	29.23	1	2.69
	Distraction	34.07	2	3.14**
	Job X Distraction	3.85	2	.36
	Error	10.86	170	
Work Itself	Job	459.14	1	34.61**
	Distraction	90.32	2	6.81**
	Job X Distraction	31.00	2	2.34+
	Error	13.27	170	
Skill Variety	Job	193.15	1	33.16**
	Distraction	42.14	2	7.23**
	Job X Distraction	3.34	2	.57
	Error	5.83	170	

^aAll three levels of distraction were used in these analyses.

+ p<.10

* p<.05

** p<.01

TABLE 2
Three Way ANOVAs with Significant Reason Effects^a

Dependent variable	Effect	MS	df	F
Boredom	Job	102.73	1	7.98**
	Distraction	213.05	1	16.55**
	Reason	51.28	1	3.98*
	Job X Distract	10.17	1	.79
	Job X Reason	3.91	1	.30
	Distract X Reason	.66	1	.05
	Job X Distract X Reason	.12	1	.01
	Error	12.87	132	
Overall Satisfaction	Job	34.38	1	3.22+
	Distraction	43.51	1	4.07*
	Reason	50.39	1	4.72*
	Job X Distract	9.60	1	.90
	Job X Reason	.11	1	.01
	Distract X Reason	23.57	1	2.21
	Job X Distract X Reason	11.44	1	1.07
	Error	10.68	132	
Work Itself	Job	460.87	1	47.17**
	Distraction	42.11	1	4.31*
	Reason	39.12	1	4.00*
	Job X Distract	37.72	1	3.86+
	Job X Reason	.46	1	.05
	Distract X Reason	.04	1	.00
	Job X Distract X Reason	.02	1	.00
	Error	9.77	132	
Task Significance	Job	48.01	1	9.01**
	Distraction	10.57	1	1.98
	Reason	12.86	1	2.41
	Job X Distract	2.02	1	.38
	Job X Reason	2.02	1	.38
	Distract X Reason	22.02	1	4.13*
	Job X Distract X Reason	2.34	1	.44
	Error	5.33	132	

^aonly moderate and high distraction conditions are included in these analyses
+ p<.10 * p<.05 ** p<.01

Figure 1 Non-Task-Related Thoughts and Boredom

