Shared and Unshared Information in an Employee Selection Process

by

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ABSTRACT

This study tested two competing theories describing how information is shared in a selection process. The information processing theory says critical unshared information, important information not originally known, is more impactful than shared information, information known prior to making a decision. The alternative theory is social validation which says shared information is more impactful than unshared information. The importance of the information as well as when the information was provided, either prior to or after making an initial preference, was used to test each theory. Critical shared information was more impactful in this study. Further results seem to suggest interactive effects between social validity and informational value of information provided by others.

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CHAPTER I: LITERATURE REVIEW

Introduction

Groups are often formed when complex problems need to be solved. The basic idea is by pooling intellectual resources, groups will be able to develop better solutions. Take a jury, for example. A jury is made up of a group of people who have to unanimously decide on a verdict of guilty or not guilty. Each individual should possess the same information as everyone else and the perceived importance of that information should lead everyone to the same conclusion. In some cases that decision is obvious, and a decision is easily reached, but this is not always the case. Sometimes, the evidence presented will not lead to a clear or even correct verdict. How then is a jury to come to an agreement?

Looking at another example, take the failed 1986 NASA space shuttle launch of The Challenger (Larson & LaFasto, 1999). Numerous groups worked together to make the launch happen, but upon takeoff, the fuel tank separated from the shuttle and blew up, destroying the shuttle and those on board. NASA determined that an O-ring failed to properly seal the fuel tank due to the cold temperatures at takeoff. With so many teams working on the shuttle, how did this problem go unforeseen? One team of engineers knew the risk of this happening and even informed the group above them. That was as far as the information traveled though. When the safety team reviewed the warning, they deemed it as non-significant and did not pass on the information to those responsible for the launch. If the importance of that key piece of information from the engineers had been taken seriously, the lives of everyone on board could have been saved. The

information was communicated but the key decision makers did not value the information as much as they should have (Larson & LaFasto, 1999).

Mesmer-Magnus and DeChurch conducted a meta-analysis that looked at the effects of information sharing on team performance. Information sharing as defined by Mesmer-Magnus and DeChurch (2009) in terms of discussion of unique or unshared information (information held by only a few team members) was found to be more predictive of team performance compared to the willingness to discuss information which they define as openness (discussing all of the available information). Across 72 studies, information sharing was found to positively effect performance. They found teams shared information more when all of the team members already knew the information, members could make decisions independently, and members were similar to each other. Information sharing can be enhanced by structuring team discussions, members knowing that a correct solution exists, and promoting a team environment (Mesmer-Magnus and DeChurch, 2009)

Hidden profile tasks can be used to identify how groups discuss information and whether they effectively communicate all of the information necessary to solve the problem (Stasser & Titus, 1985). In a hidden profile, the information shared by the majority of the group before discussion, shared information, will identify an incorrect solution whereas the information that only a few members in the group know before discussion, unshared information, is necessary in identifying the correct solution. A common example of this type of hidden profile is the murder mystery task (Stasser & Stewart, 1992; Van Swol & Ludutsky, 2007; Van Swol, 2009). In the murder mystery task, participants must identify the guilty suspect. The information shared between the

final decision maker and other group members should lead the decision maker to select an inferior suspect. Unshared information must be discussed in order to identify the correct suspect. These studies found that shared information was discussed more but when unshared information was thought to be important, groups brought up more unshared information and rated the information as more impactful. Only when the advisor with unshared information agreed with the decision maker, did decision accuracy significantly increase (Van Swol, 2009).

In another example of a hidden profile task, a study (Larson, Christensen, Franz, Abbott, 1998) had groups diagnose hypothetical medical cases. Unshared information was once again required in order to effectively reach the correct diagnosis. Larson found that shared information was discussed first and was pooled more often than unshared information. Team leaders were found to drive these trends through discussion by asking more questions and repeating more shared information. After shared information had been discussed, team leaders were more likely to repeat unshared information. Only when unshared information was pooled did accuracy of the correct diagnosis increase.

Many studies have looked at identifying what kind of information discussion focuses on and why important information, like the O-rings on the Challenger, was not carried all the way up through the chain of command. Throughout most studies on group discussion behavior, shared information is discussed more which is most likely due to an information sampling bias where more people are aware of the shared information and are able to discuss it (Larson et al., 1998). This explanation accounts for why shared information may be brought up more, but it does not explain why it is repeated more and sometimes impacts decision quality.

Research has revealed mixed results as to whether or not groups utilize the unique insights individuals are able to provide or whether they rely more on the information held by the collective majority; i.e., shared information. In general, research has shown that shared information is discussed more (Stasser & Titus, 1985, 1987; Mesmer-Magnus & DeChurch, 2009) and repeated more (Larson et al., 1998, Larson, Sargis, Elstein, Schwartz, 2002), but does not necessarily lead to better decisions (Stasser & Stewart, 1992; Mesmer-Magnus & DeChurch, 2009). Research has shown that utilization of important unshared information actually leads to better quality decisions than shared information (Stasser & Stewart, 1992; Mesmer-Magnus & DeChurch, 2009; Littlepage & Rogers, 2013).

Discussion Patterns

There is a general consensus in the literature in regard to how information is discussed. In most studies, information that is shared by the majority of the group is discussed first and repeated more throughout the discussion (Stasser & Titus, 1985, 1987; Mesmer-Magnus & DeChurch, 2009; Larson et al., 1998; Larson et al., 2002). A social validation explanation is proposed where individuals discuss shared information because it can be validated by their peers (Wittenbaum, Hubbell, & Zuckerman, 1999; Wittenbaum & Bowman, J. M., 2004).

Shared information is not the only information discussed. Unshared information, while less frequent, is still brought into discussion. Individuals who contributed unshared information were rated as more influential to the discussion (Larson et al., 2002). The influential rating was mediated by discussion behavior. The more unshared information a person brought up, the more influential they were perceived. There is also evidence to

suggest that the more unshared information there is, the more likely people are to bring that information into discussion (Brodbeck, Kerschreiter, Mojzisch, Frey, Schulz-Hardt, 2002). Given an unlimited number of requests for information, all of the shared and unshared information will more than likely be discussed (Van Swol, 2009). In real life though, discussion may not have the luxury of unlimited time to go over every piece of information and people may only be able to share one or two pieces of information in a brief meeting. When restrictions were put on the amount of information someone could request, the person with the most unshared information was called on to contribute to the discussion. While shared information is discussed more, it appears that when decisions have to be made with limited resources, individuals realize the importance of unshared information and will call upon people with this information to make their final decision.

Winquist and Larson (1998) proposed a dual processing explanation for how information is discussed. They acknowledge the social validation perspective and propose that the basic need to have your ideas accepted by the group must be met before making a decision. This explains why shared information is discussed earlier and more often than unshared information. Once social validation needs have been met, then discussion can focus on unshared information which was shown to lead to better decision quality (Stasser & Stewart, 1992; Mesmer-Magnus & DeChurch, 2009; Littlepage & Rogers, 2013). When taken in context with the rest of the literature, one problem with this explanation is that while it appears groups prefer to discuss shared information before unshared information, unshared information does not always sway a person's decision from their initial preference, even when the unshared information should have led to a change in initial preference (Stasser & Titus, 1985). Simply examining shared

and unshared information is not enough and the importance of the information needs to be examined.

Two types of tasks (intellective and judgmental) have generally been used to differentiate between critical information, information which is critical in solving a problem, and trivial information, information which is not important for solving a problem (Larson, 2010). Intellective tasks are those which have a clear demonstrable solution whereas judgmental tasks are more ambiguous and do not have a clear solution. This distinction in task design allows us to determine how the importance of information affects discussion behavior. Research has shown that in intellectual tasks, critical unshared information is rated as more impactful than critical shared information or trivial information in general (Littlepage & Rogers, 2013). In judgmental tasks, Wittenbaum (1999, 2004) found that relevant shared information was rated as more impactful than relevant unshared information. Outside of Wittenbaum's findings, there has been a general lack of evidence to support the finding that critical shared information is more impactful for judgmental tasks.

Decision Accuracy

Even though discussion of unshared information, especially critical unshared information, should lead to the identification of the correct solution, research has returned mixed results as to whether accuracy increases through discussion of unshared information. Several studies have found discussion of unshared information led to greater accuracy in selecting the correct solution. In most of these studies it was found that the more unshared information groups discussed, the greater the decision quality compared to

groups that discussed more shared information (Larson et al., 1998; Brodbeck et al., 2002; Greitmeyer, Schulz-Hardt, Brodbeck, Frey, 2006; Winquist & Larson, 1998).

Other studies have found contradicting evidence. Stasser and Stewart (1992) found that critical shared information presented in pre-discussion time led to more accurate decisions than unshared information brought up during discussion. Wittenbaum is the other main proponent of shared information leading to better decision quality. While not measuring accuracy of decisions specifically, Wittenbaum (1999) found shared information to be rated as more accurate than unshared information. Wittenbaum (2004) also found that when the need for accuracy in a task was high, those who possessed more shared information were rated as more capable than those with unshared information. When need for accuracy was low, group members rated each other similarly between the shared and unshared conditions. This result suggests that when the accuracy of a solution is important, group members rely more on shared information and believe this information is more impactful for the final decision.

In several studies, pre-discussion preferences based mainly on shared information, remained even after unshared information was introduced (Stasser & Titus, 1985). The hidden profile task is commonly used in decision making studies due to a design which is able to test for effects of pre-discussion preference in the decision-making process. In a hidden profile task, the initial information will support one solution while critical unshared information will indicate an alternative solution. The critical unshared information must be discussed in order to come to the correct solution (Laughlin, 1980). The hidden profile serves as an effective way to compare socially validated information in the form of shared information to unshared information that could have objective

validity. Socially validated information is that which is shared and corroborated by the group and object validity comes from how demonstrable the information is in identifying the correct solution. These hidden profile tasks can present information either as more of an intellectual task where there is a clear correct answer or as a judgement task where the correct answer is subject to debate (Stasser & Stewart, 1992). Mesmer-Magnus and DeChurch (2009) found more time was spent discussing shared information in judgmental tasks than intellective tasks, but information sharing was more predictive of performance in intellective hidden profile scenarios than both intellective non-hidden profile tasks and judgmental tasks.

The current study looks to build on the findings from Littlepage and Roger's study (2013). In their study, information was found to have a greater impact when it was both novel and important. These findings come in support of the information processing perspective while no support was found for the social validation explanation. In order to further test the role of information processing as opposed to social validation in decision making processes, the study will use a personnel selection test based off of the methods used in the Wittenbaum et al., study (2004). This study found support for the social validation perspective in a selection task. So far, most of the research has investigated information sharing in group settings. Little research has investigated the influence of unshared information in the decision-making process of a single person outside of the influence of a group. It is our hope that by replicating Wittenbaum's study, we will be able to gain a deeper insight into the processes involved in decision making as well as to identify potential moderators in the individual decision-making process such as information importance.

Competing Theories

Two theories arise in the literature that offer competing explanations as to which type of information is preferred, and which is actually used in the decision-making process. The first explanation is the information processing theory which relies on unshared information to guide the decision-making process. According to this perspective, individuals and groups will utilize all of the available information in an attempt to reach an optimal decision. Information is thus evaluated on its merits regardless of whether it was known prior to discussion or acquired from the discussion itself. Consistent with the information processing perspective, research has found that people who brought up more unshared information were percieved as more influential and knowledgeable in group discussions (Winquist & Larson, 1998; Van Swol & Ludutsky, 2007). Discussing more unshared information also led to greater decision-making quality in terms of correctly identifying solutions (Brodbeck et al., 2004; Mesmer-Magnus & DeChurch, 2009). In a meta-analysis by Mesmer-Magnus & DeChurch (2009), they found this is especially true if the unshared information is viewed as more important in the decision-making process.

Information Processing Theory

Support for the information processing perspective has come from a variety of experimental tasks. The murder mystery task is an example of a hidden profile task which is commonly used in other decision-making studies. The nature of the task looks directly at what information is used in the decision-making process where shared and unshared information is provided and the only way to identify the correct hidden profile is to draw from important unshared information (Laughlin, 1980). Van Swol (2007) found that

individuals utilized unshared information more in a murder mystery task. In this study, there were two informants and a decision maker. One informant contained only shared information while the other informant contained half shared and unshared information. In order to identify the correct solution, unshared information would have to be utilized. The decision maker had to request 12 pieces of information between both advisors. In order to effectively solve the mystery, the decision maker needed to request information from the advisor with the unshared information and then value the contribution enough to utilize the information. Van Swol found the decision maker requested more information from the advisor who provided unshared information and rated this information as more influential and important (Van Swol, 2007). In a follow up study, Van Swol (2009) used the same murder mystery task but this time one of the advisors contained mostly unshared information while the other contained only shared information. (In order to assess the importance of the decision makers choice, two experimental conditions were used. In one condition, the decision maker was only allowed to request 12 pieces of information whereas in the second condition there was no limit on the number of information requests. In the limited request condition, information from the advisor with unshared information was requested more. When requests were not limited, the decision maker requested an equal amount of shared and unshared information even though the shared information did not aid in identifying the correct hidden profile. In this condition, information from the advisor with unshared information was requested first before information from the advisor with only shared information. The authors proposed the explanation that once information processing needs were met, shared information was valued in order to fulfill the social validation role.

In Hinsz' (1990; 2004) studies, the information used by groups was determined to be a result of either objective validity or social validity. Information with objective validity supports a demonstrable solution and is most represented in intellectual tasks (Laughlin, 1980). Social validity exists when the information is corroborated by the group. Social validity is especially important when a clear solution is harder to identify, as is the case in judgmental tasks (Laughlin, 1980). When a solution has a great deal of demonstrability, information with objective validity has a stronger impact than socially validated information (Laughlin, 1980). Information in hidden profile tasks can either represent more of an intellectual task where there is a clear demonstrable solution or as a judgement task where the correct profile is less clear (Laughlin, 1980; Stasser & Stewart, 1992).The hidden profile serves as an effective way to compare the impact of socially validated information to objectively validated information in the decision making process. Research on information processing would say that highly demonstrable unshared information would lead to better decision-making performance (Larson et al., 2002; Littlepage & Rogers, 2013; Laughlin 1980). However, others studies found socially validated information to have a bigger impact in the decision-making process (Wittenbaum & Bowman, 2004; Wittenbaum, et al., 1999). It is possible that the type of task has an impact on which type of information is preferred in the decision-making process. Wittenbaum's task was a personnel selection task where the choice of the best candidate was a matter of judgment. Thus, this task represents a judgement task.

Larson (Larson et al., 2002) found support for the information processing theory in a medical drug selection task where participants were asked to choose which of three drugs to develop further. Groups consisted of three people. One person received only

information which was shared by the other members while the information the other members received was half shared and half unshared. Information consisted of positive and negative effects of the drugs. Critical information for selecting the best drug came from positive unshared information. Within groups of three, shared and unshared information was provided to each member of the triad with both positive and negative attributes for each drug. The shared and unshared conditions contained the same number of negative attributes, but the unshared condition contained more positive attributes of the drugs. In order to select the best drug with the fewest or least negative side effects, all of the unshared information would have to be considered. Each individual from the group would have to contribute their important unshared information. Larson et al. (2002) found that participants with more unshared information were seen as more influential. This rating was mediated by the participant's discussion behavior in terms of the number of positive comments made about the drugs but not for the number of negative comments. The more positive comments made about the drug led groups to select that drug. Because the participants with unshared information contributed only positive unshared information, their contributions were valued higher.

Social Validation Theory

The competing explanation for the type of information used in the decision-making process is the social validation theory. Stasser and Titus (1985) examined the effects of information sharing in groups of four. In their study, groups were asked to select a new student body president from three applications. Before meeting as a group, the individual members were given excerpts from the candidate's applications and were asked to record their initial preference. After initial preferences were made, the group

members convened and discussed the information they received. Stasser and Titus found that discussion centered around information that was shared and supported the candidate that the majority of the group selected in the pre-discussion time. Unshared information was brought up during discussion which should have led the group to select the more favorable candidate; however, the group ultimately chose the candidate most preferred in the pre-discussion time.

Wittenbaum and colleagues (Wittenbaum & Bowman, 2004; Wittenbaum, et al., 1999) found people to have a more positive response to shared information as compared to unshared information. Wittenbaum attempted to identify the underlying factors in the social validation theory and proposed the mutual enhancement theory as a possible reason why individuals value shared information more than unshared information. This theory states that group members will think of themselves as more capable when more shared information is discussed and receive some sort of positive reward such as affirmation from the group. Wittenbaum (1999, 2004) found support for the mutual enhancement explanation to the social validation theory specifically when using a personnel selection task. In this task, participants were asked to review applications of two candidates and select which candidate to hire for a faculty position at a University. The effect was further demonstrated when discussing more unshared information resulted in lower capability ratings by one's partner as well as of themselves. In these studies, shared information was seen as more valid and the source of the information was perceived as more knowledgeable and capable. Other research has supported these findings (Greitemeyer et al., 2003; Mojzisch, Schulz-Hardt, Kerschreiter, Brodbeck, Frey, 2008; Parks & Cowlin, 1996; Postmes et al., 2004). These studies both point to an explanation of group decision

making that relies on the validation of shared information from a group over unshared information.

Current Study

The current study is looking to replicate the procedures used in the Wittenbaum's personnel selection task (Wittenbaum & Bowman, 2004; Wittenbaum, et al., 1999) and expand upon it further by including intellective and judgmental task condition with shared and unshared information. The addition of these conditions is in an attempt to determine if the support Wittenbaum found for the social validation theory is task specific and if the results are mediated/moderated by information importance. In the study by Littlepage and Rogers (2013), a hidden profile task was used based off of the Toma and Butera (2009) traffic accident scenario where participants were asked to play a detective and determine the person responsible for a traffic accident. The study by Littlepage and Rogers (2013) included three conditions to test the how the importance of information affected discussion behavior. Every individual received 24 pieces of information. From there, the participant receives nine additional pieces of information from a simulated partner. The nature of the information provided by the partner was based on which condition they were in. The shared condition resembles a judgmental task where participants receive nine pieces of information which repeated what they already received. The trivial unshared condition also resembles a judgmental task and provided novel information but did not help in identifying the correct suspect. The third condition is the important unshared condition and represents an intellective task where the new information indicated a different suspect from what the initial information was indicating. Results from the study found that important unshared information was seen as more valid

than all other information. Participants rated their decision and the source of the information higher when the partner provided more important information than when he or she provided trivial information. Accuracy of the final decision improved from 2% to 66% for people in the important unshared condition. The Littlepage and Rogers (2013) study found that for intellective tasks, important unshared information had a greater impact and led to better decisions than shared information or trivial unshared information. Contrary to suggestions of the social validation theory, shared trivial information did not have a greater impact than unshared trivial information. The present study extended the Littlepage and Rogers study by placing participants in four conditions (Critical/Trivial information) X (Shared/Unshared information) and utilized both an intellective and judgmental task rather than just a judgmental task. This will allow a deeper understanding of information processing in terms of information importance as well as the effects of shared information in the decision-making process.

Littlepage and Roger's study (2013) was designed to be a critical test of the information processing and the social validation perspectives. Results supported the information processing perspective; however, Littlepage and Rogers utilized an intellective task. Previous research supporting social validation (e.g. Wittenbaum & Bowman, 2004) utilized a judgmental task. The current study utilizes both intellective and judgmental tasks to contrast predictions of information processing and social validation. Most studies that examine the impact of shared and unshared information utilize a hidden profile condition. In a hidden profile, critical information is not shared. For example, the Littlepage and Rogers study (2013) contrasted the effects of shared

trivial information, unshared trivial information, and unshared critical information. The current study includes an additional condition, shared critical information.

Hypotheses

1. Critical unshared information will have a greater impact than trivial unshared information (Littlepage & Rogers, 2013). The following ratings will be higher for important unshared information compared to trivial unshared information:

    a. Information validity

    b. Partner capability

    c. Rated decision impact

    d. Opinion change

H1	Critical	Trivial
Shared		
Unshared	>	

Figure 1. Hypothesis 1: Unshared Critical vs. Unshared Trivial

2. Critical unshared information will have a greater impact than trivial shared information (Littlepage & Rogers, 2013). The following ratings will be higher for important unshared information compared to trivial shared information:

    a. Information validity

    b. Partner capability

    c. Rated decision impact

    d.   Opinion change

H2	Critical	Trivial
Shared		
Unshared		

Figure 2. Hypothesis 2: Unshared Critical vs. Shared Trivial

Research Questions

1. Will trivial shared information be equally as impactful as trivial unshared information in accordance with the information processing perspective or will trivial shared information be more impactful in the decision-making process. Will the following ratings be higher for trivial shared information compared to trivial unshared information as suggested by social validation?

        a) Information validity

        b) Partner capability

According to the information processing perspective, trivial shared information will be rated equally as impactful as trivial unshared information (Littlepage & Rogers, 2013). However, according to the social validation perspective (Wittenbaum, 2004), shared information should have more of an impact on decision making.

RQ1	Critical	Trivial
Shared		
Unshared		$\vee \, \|$

Figure 3. Research Question 1: Shared Trivial vs Unshared Trivial

2. The Littlepage and Roger's (2013) study did not examine the following condition and therefore represents an additional research question. Will critical unshared information have a greater impact than critical shared information as suggested by the information processing perspective? Will the critical shared information have greater impact as suggested by the social validation perspectives? Will the following ratings differ for important unshared information compared to important shared information?

a) Information validity

b) Partner capability

RQ2	Critical	Trivial
Shared		
Unshared	$\wedge \, \vee$	

Figure 4. Research Question 2: Unshared Critical vs. Shared Critical

CHAPTER II: METHOD

This thesis set out to examine the effects of unshared information in an employee selection task. A total of 131 Middle Tennessee State University students in psychology classes at the undergraduate level responded to a paper and pencil in-class questionnaire. Specifically, participants had to decide which of two applicants they should hire for a faculty position in the Department of Marketing at Middle Tennessee State University. Each participant was given a hiring packet that contained a curriculum vita (CV) for each applicant. The CVs contain information regarding education, teaching experience, and employment history. Additional information was provided either in the form of a background check or reference testimonials. There were four experimental conditions based on the information provided by the Human Resources Department at Middle Tennessee State University (shared/unshared information) X (critical/trivial information). Dependent measures were based on the study from Littlepage and Rogers (2013). Measures were recorded regarding how valid the participants believed the information was as a whole, how impactful they believed the source of the additional information was, how confident they were in their decision, and whether their opinion changed after additional information was provided. Participants were randomly assigned to one of four experimental groups.

Shared Critical Information

The first experimental group received a hiring packet containing all of the CV information as well as background information. Participants in this condition were presented all of the information and then asked to make a decision on the better candidate. Confidence ratings were given based on the confidence in their decision.

Next, an additional background check performed by the Human Resources Department at Middle Tennessee State University was provided. This information confirms the previous background information previously provided when they received the applicants' CVs. The background information represents critical information that clearly disqualifies on of the two applicants. An example of this disqualifying information is provided, "John and his ex-wife got divorced after she found out John had an affair with one of his students in 2017." After such information is provided, participants were asked which candidate they preferred and how confident they were in their decision. Further questions addressed how valuable and how novel the information provided by HR was in making their decision. This condition represents more of an intellectual task where there is a clear better candidate because the instructions to the selection case indicated that good moral character was a requirement. In this way, the impact of shared critical information can be assessed in the decision-making process.

Shared Trivial Information

The second experimental group also received all of the CV information in the hiring packet, but instead of background information, the packet contained testimonials from personal references. Participants in this condition were presented all of the information and then asked to make a decision on their preferred candidate. Confidence ratings were given based on the confidence in their decision.

Next, the Human Resources Department at Middle Tennessee State University provided testimonials from the applicants' references that confirmed the previous reference information provided in the applicants' CVs. Again, participants were asked which candidate they prefer and how confident they were in their decision. Further

questions address how valuable and how novel the information provided by HR was in making their decision. Unlike the background information, the reference testimonials did not contain critical information that clearly indicated one candidate as better than the other; however, the testimonials for candidate B are slightly more positive. This ambiguity requires participants to make a judgement decision. This condition resembles a judgement task where there is no clear better candidate and participants must make a decision based on the collective information. In this way, the impact of shared trivial information can be assessed in the decision-making process.

Unshared Critical Information

The information in the third experimental group resembled the first group, but in this condition, the participants' initial candidate preference was recorded before the critical background information was presented. That is, participants in this condition were initially presented with the CV information, but not background or reference information. Participants were also be asked to report how confident they were in their decision.

After the initial choice, background information was be provided by the HR department for both candidates. Again, participants were asked which candidate they preferred and how confident they were in their decision. Further questions address how valuable and how novel the information provided by HR was in making their decision. With the addition of the critical unshared background information, candidate B should become the preferred candidate. This condition represents more of an intellectual task where there is a clear better candidate. In this way, the impact of unshared critical information can be assessed in the decision-making process.

Unshared Trivial Information

The information in the fourth experimental group resembles the second group, but in this condition, the participants' initial candidate preference was recorded before the reference information was presented. That is, participants in this condition were initially presented with the CV information, but not background or reference information. Participants were also be asked to report how confident they were in their decision.

After the initial choice, reference testimonials were provided by the HR department for both candidates. Participants were again asked which candidate they preferred and how confident they were in their decision. Further questions addressed how valuable and how novel the information provided by HR was in making their decision. This condition resembles a judgement task where there is no clear better candidate and participants must make a decision based on the collective information. In this way, the impact of unshared trivial information can be assessed in the decision-making process.

CHAPTER III: RESULTS

Analyses

A series of 2 X 2 factorial ANOVAs were performed to determine differences in the four experimental conditions (Shared vs Unshared) X (Critical vs Trivial). Pairwise comparisons tested for additional hypotheses.

Information processing suggests that critical information will have more of an impact than trivial information because the value of critical information enables better decision making (Littlepage & Rogers, 2013). Information processing also suggests that unshared information will have more of an impact than shared information as the addition of information not previously known will be more impactful than receiving redundant information. Social validation, on the other hand, suggests that redundant information will have a greater impact because it reaffirms what is already known (Wittenbaum & Bowman, 2004; Wittenbaum et al., 1999). In this study, impact was assessed with regards to perceived validity, perceived source credibility, and decision impact.

Reliability

Scale reliabilities were found for each of the three scales. The information validity scale consisted of three items, (α = .74), Human Resource capability consisted of three items (α = .88), and the Rated Decision Impact scale consisted of three items as well, (α = .81). All three of the scales were internally consistent. The items for each of these scales can be found in appendix A. Items were rated on a Likert scale ranging from 1-10 with anchors of very unlikely at 1, neither likely nor unlikely at 5.5, and very likely at 10.

Manipulation Checks

This manipulation check was intended to ensure that participants were able to accurately

identify which applicant, Winston or Mitchell, possessed the strongest qualifications for

each section of the CV (education, professional, teaching experience). Every condition

received all three areas of information originally and participants were asked to

accurately identify the preferred candidate for each section. The information was

designed so that Winston would be more qualified in terms of education and professional

experience. Mitchell on the other hand would be more qualified in terms of teaching

experience. Results confirmed the appropriate weighting of the materials and Winston

was rated as more qualified for education and professionalism whereas Mitchell was

more qualified at teaching.

Table 1.
Preferred Candidate by CV Section

	Education		Professional		Teaching	
	Mitchell	Winston	Mitchell	Winston	Mitchell	Winston
Shared Critical	4	30	8	26	27	7
Shared Trivial	4	28	3	29	28	4
Unshared Critical	3	28	3	28	30	1
Unshared Trivial	2	32	2	32	32	2

Novelty Scale

      A fundamental aspect of this study was that participants in the shared information

condition needed to realize whether the information given by the Human Resource

department was information they had received in the original application. A manipulation

check tested to see whether or not groups were able to identify if the information they received by the Human Resource department was information they already knew. Participants were asked how certain they were that the information provided by HR was not familiar and not information they already knew. Thus, higher scores indicated that participants were more certain that the information was new. As expected, the information novelty check found significant differences between shared and unshared information, $F(1, 127) = 8.93$, $p = .003$, $\eta^2 = .066$. Information novelty accounted for about 7% of the variance. People in the unshared condition were more certain the information was not known previously, $M = 7.05$, whereas people in the shared condition in general seemed less likely to identify the information as being novel, $M = 5.76$.

Significant differences in novelty were also found between critical and trivial information, $F(1, 127) = 13.86$, $p < .001$, $\eta^2 = .098$. Information type accounted for almost 10% of the variance. Critical information was rated as more novel, $M = 7.21$, than trivial information, $M = 5.61$. These results are surprising as there should not be difference between how important the information is in determining whether the information was repeated. There were no interaction effects, $F(1, 127) = 0.00$, p = .992, $\eta^2 > .000$. When looking at the cell means, figure 5 below, we see that in general, unshared information is rated higher than shared information, but shared critical information is actually rated higher than unshared trivial information. Because of this, it is unclear whether or not participants fully understood whether the information provided by the Human Resource department was novel information.
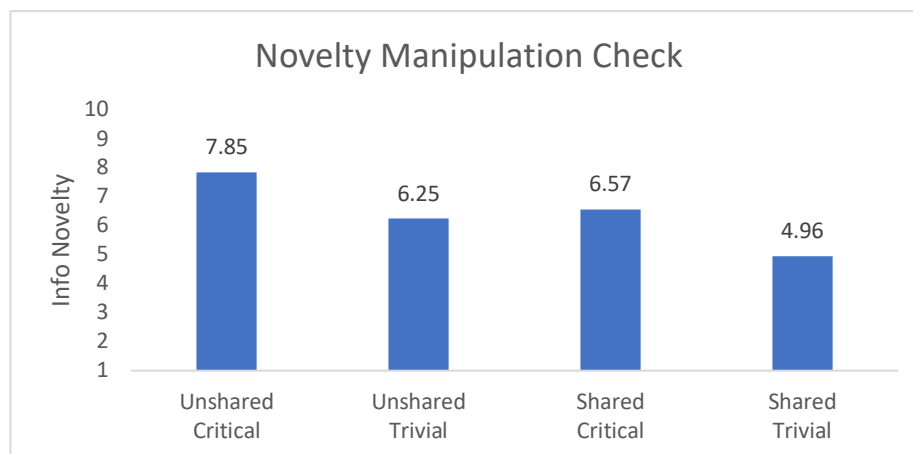
Figure 5. Information Novelty Perceptions by Condition

Information Importance

Participants were asked to make a decision based on how important they found the information provided by HR after all of the information had been provided. As expected, the manipulation check for rated information importance found significant differences between critical, $M = 8.53$, and trivial information, $M = 5.73$, $F (1, 127) = 56.64$, $p < .001$, $\eta^2 = .308$. There was also a significant difference between unshared, $M = 7.66$, and shared information, $M = 6.60$, $F (1, 127) = 8.14$, $p = .005$, $\eta^2 = .060$. These results are surprising as we did not expect to find differences between shared and unshared conditions. Critical information should have clearly disqualified one candidate and the same critical information was presented for the shared critical and unshared critical conditions. No interaction effects were found for information importance, $F (1,127) = 0.90$, $p = .345$, $\eta^2 = .007$. Information importance (critical/trivial) accounted for a large proportion of the explained variance, $\eta^2 = .308$. These results support the purpose of this manipulation check which was to make sure participants were able to identify critical information from trivial.
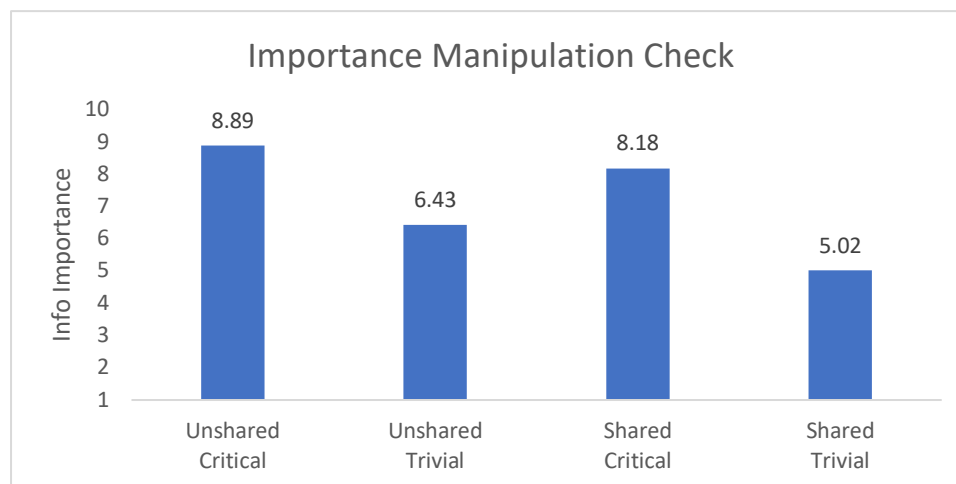
Figure 6. Information Importance by Condition Manipulation Check

Tests of Group Differences

Information Validity

In order to assess information validity, participants were asked to rate how certain they were that the information provided by the HR department was important, relevant, and accurate. In an analysis of the Information Validity scale we expected to find critical information rated higher than trivial information. Two-way ANOVAs and follow up tests found partial support for this assumption. Critical information was rated as more valid, $M = 8.20$, than trivial information, $M = 7.52$, $F (1, 126) = 7.82$, $p = .006$, $\eta^2 = .058$. There were no significant differences for information novelty, $F (1, 126) = 2.05$, $p = .154$, $\eta^2 = .016$. There was also a significant interaction, $F (1, 126) = 4.73$, $p = .032$, $\eta^2 = .036$. Shared trivial information received the lowest rating, $M = 7.08$, while shared critical information received the highest ratings, $M = 8.29$. See figure 7 below for group differences. The significant main effect for information importance is consistent with the information processing perspective based on expectations that critical information would be rated as more valid, but differences were small and unshared trivial information was

rated almost as highly as critical information. The findings that shared trivial information was rated as less valid than all other types of info are not consistent with the social validation perspective.
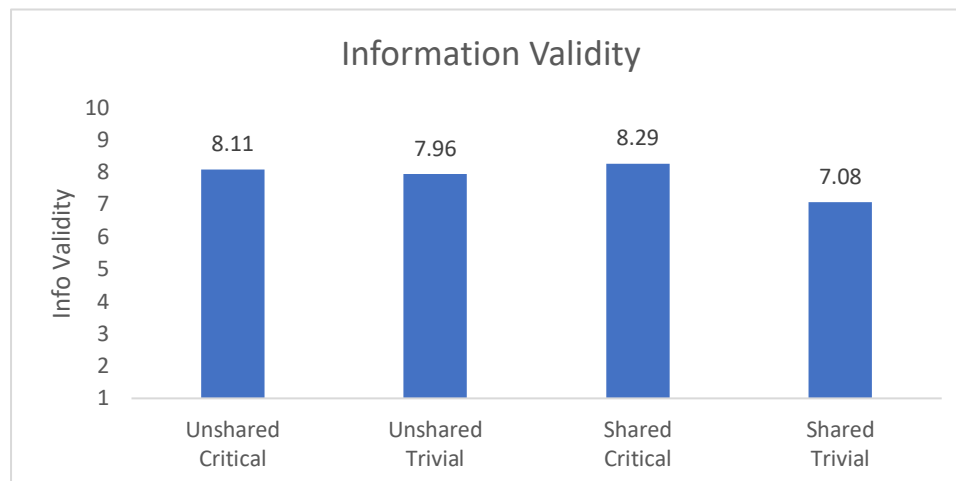
Figure 7. Information Validity by Condition

HR Capability

The information processing perspective suggests that the source of information would be seen as more capable when providing critical information (Littlepage & Rogers, 2013). Social validation suggests the source is seen as more credible when providing shared information Wittenbaum & Bowman, 2004; Wittenbaum, Hubbell, and Zuckerman, 1999). Participants were asked to rate how certain they were that the HR department was knowledgeable, competent, and credible after making their final decision. In an analysis of the Human Resource Capability scale we expected to find HR rated as more capable when critical information was provided since that information would help disqualify one candidate. HR capability was expected to be especially high when HR was provided novel critical information. A two-way ANOVA did not find

significant differences between critical and trivial information; however, there were

nearly significant differences between critical, $M = 7.95$, and trivial, $M = 7.40$,

information, $F(1,125) = 3.68$, $p = .057$. While not significantly different, the HR

department was rated slightly more capable when providing critical information than

when providing trivial information. No differences were found between shared and

unshared information, $F(1, 125) = 1.95$. There was also no interaction effect, $F(1, 125) = 0.734$. While no significant differences were found between groups, overall, the HR

department was rated as highly capable regardless of the importance or novelty of the

information presented. See figure 8 for group difference.

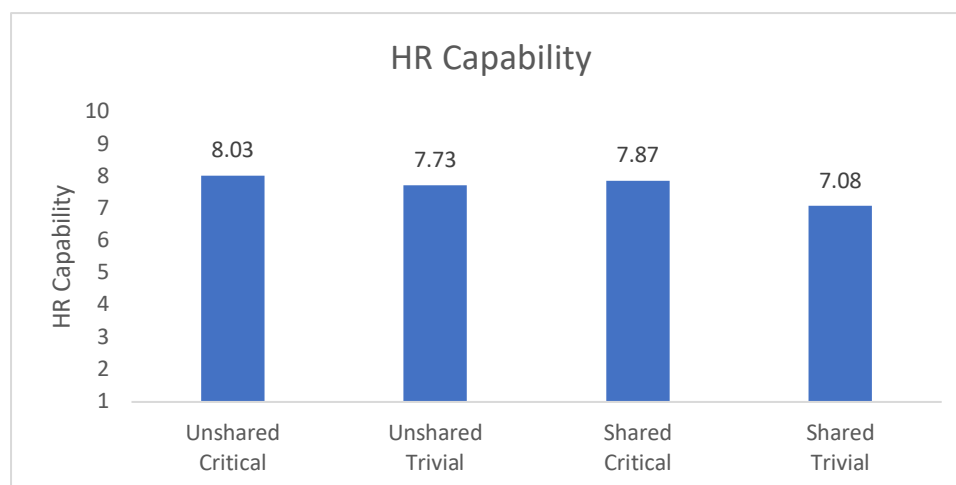*Figure 8.* HR Capability by Condition

Rated Decision Impact

In order to assess the impact of the information, participants were asked to rate

how certain they were that the information provided by the HR departments influenced

their decision, affected opinions of how important the information was, and changed their

view of the applicants. Because shared information was previously known, it would

likely factor into the participant's initial judgments. Thus, when shared information is reintroduced, it is unlikely to change the initial preference. Because of its greater importance, critical information is likely to have greater impact than trivial information. We expected to find critical unshared information to have the highest ratings as this information would help disqualify one of the candidates. A two-way ANOVA and follow up tests found critical information, $M = 8.14$, to be significantly higher than trivial information, $M = 7.15$, $F (1, 125) = 9.07$, $p = .003$, $\eta^2 = .068$. There was not a significant main effect for information novelty, $F (1, 125) = 0.63$, $p = .428$, $\eta^2 = .005$. There was a significant interaction between conditions, $F (1, 125) = 8.00$, $p = .005$, $\eta^2 = .060$. Examination of the interaction did not indicate that influence was greatest in the unshared critical condition. Rather it revealed that shared trivial information rated lower than other conditions. See figure 9 for group difference.
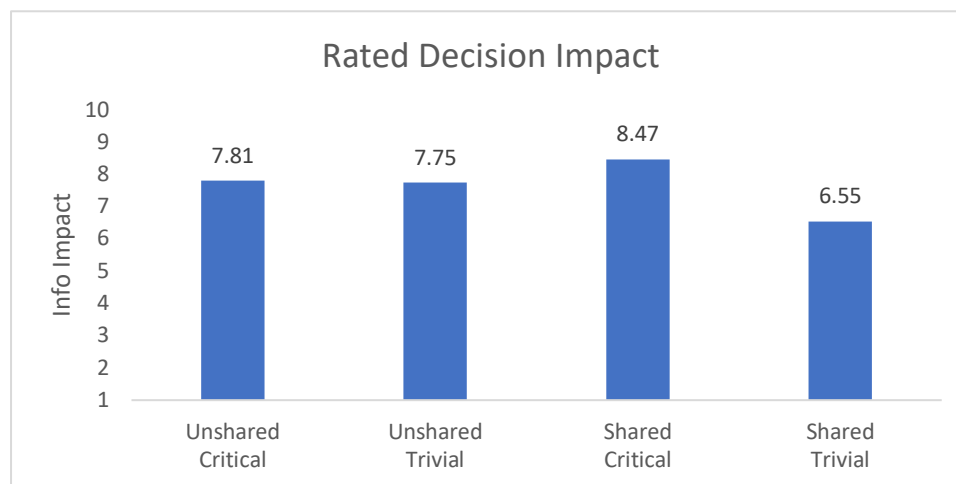

Figure 9. Rated Decision Impact by Condition

HR Influence

Participants were asked to determine how much influence the Human Resource department had on their decision. They were asked to divide 100 points between themselves and the Human Resource department. An examination of the influence attributed to the Human Resource department revealed group difference between critical, $M = 53.71$, and trivial information, $M = 45.95$, $F(1, 123) = 5.01$, $p = .027$, $\eta^2 = .039$. There was also a significant interaction effect, $F(1, 123) = 4.85$, $p = .030$, $\eta^2 = .038$, where shared critical information, $M = 58.59$, was significantly higher than all other conditions. Points allocated to the Human Resource department's information did not differ between shared, $M = 50.89$, and unshared, $M = 48.77$, information conditions. The findings that more points were allocated to HR in the critical information conditions than in the trivial information conditions and that more influence points were allocated to HR in the shared critical condition than in the shared trivial condition both are consistent with the information processing perspective. There is no difference between the unshared critical and unshared trivial conditions. This result is inconsistent with information processing. The interaction effect provides conditional support for the social validation perspective as shared critical information is rated higher than the unshared critical condition. See figure 10 for group differences.
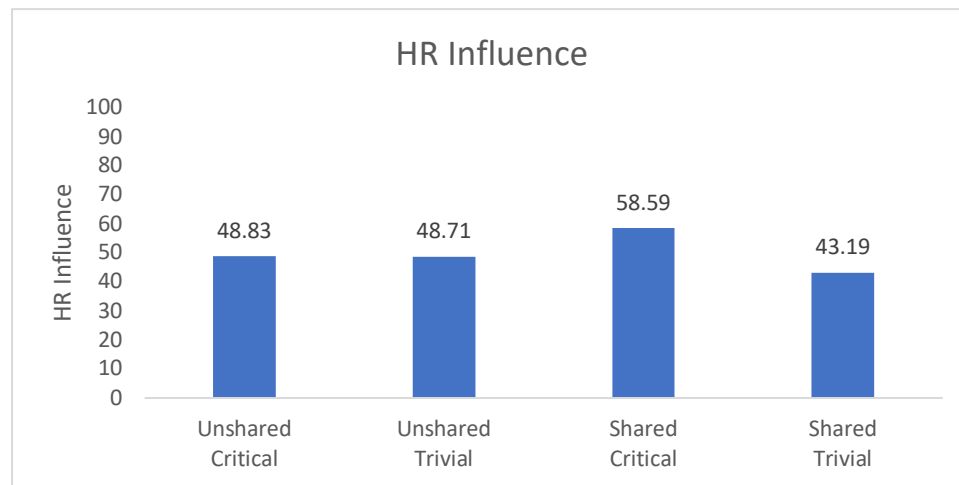
Figure 10. Influence Points Assigned to HR by Condition

Initial Decision Certainty

  Participants also rated how certain they were that their chosen candidate was the better choice before information from the Human Resource department was given. A two-way ANOVA revealed significant differences between shared, $M = 7.73$, and unshared, $M = 7.16$, conditions, $F (1, 125) = 6.53$, $p = .012$, $\eta^2 = .050$. This was expected as those in the shared condition had more information to base their initial decision (background information / reference testimonials). There were near significant differences between critical, $M = 7.65$, and trivial, $M = 7.25$, conditions, $F (1, 125) = 3.20$, $p = .076$, $\eta^2 = .025$. There was also a significant interaction effect where participants in the shared critical condition were more certain than any other condition, $M = 8.28$, $F (1,125) = 9.60$, $p = .002$, $\eta^2 = .071$. Because those in the shared critical condition possess all of the information necessary to disqualify the inferior candidate, the finding that those in the shared critical condition had the highest certainty is not surprising. See figure 11 for group differences.
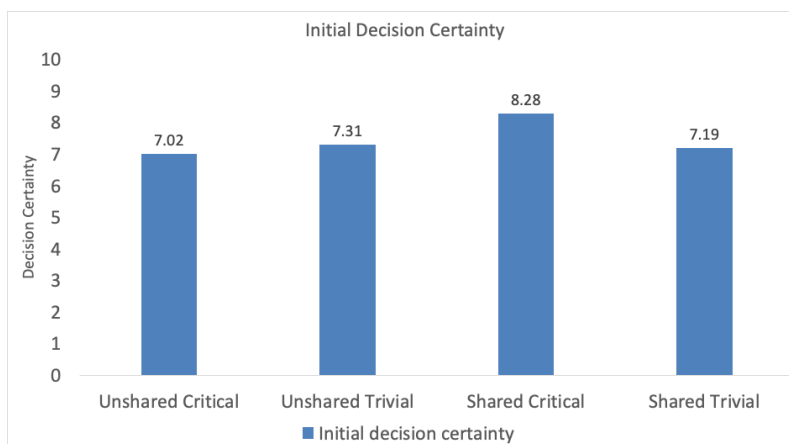
Figure 11. Initial Decision Certainty by Condition

Final Decision Certainty

After information from the HR department was provided and participants made a second selection, participants were again asked how certain they were they selected the better candidate. This time there were only significant differences between critical, $M =$ 8.60, and trivial, $M = 7.71$, conditions, $F (1,125) = 115.73, p < .001, \eta^2 = .112$, thus supporting the information processing perspective. No difference was found between shared, $M = 8.03$, and unshared, $M = 8.28$, conditions, $F (1, 125) = 1.21, p = .274, \eta^2 = .010$, nor was there a significant interaction effect, $F (1, 125) = .205, p = .652, \eta^2 = .002$. Participants were more certain when they had critical information regardless of whether it was initially available or provided by HR. This provides evidence against the social validation perspective. We expected significant difference between critical and trivial condition as critical information was designed to clearly eliminate one applicant. Significant difference between unshared and shared conditions or at least an interaction effect would provide support for social validation; however, neither a shared or unshared main effect or an interaction was observed. Only support for the information processing

perspective was found through the significant main effect for information type. See figure

12 for group differences.
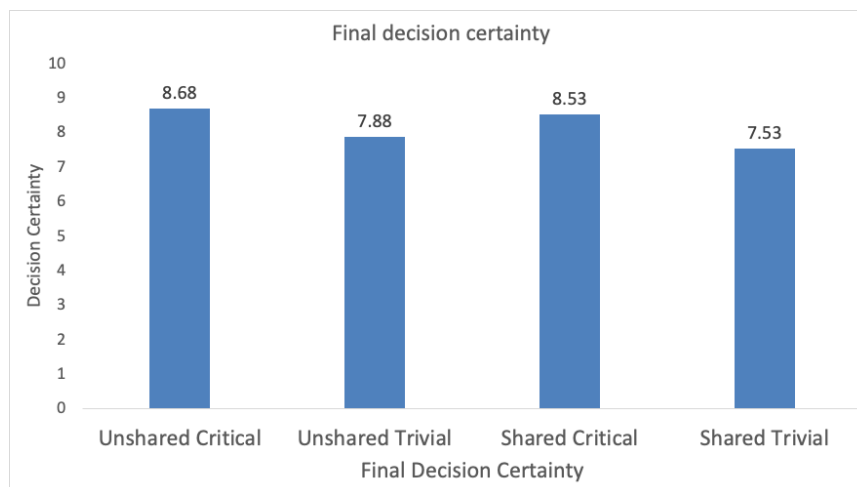
Figure 12. Final decision Certainty by Condition

Opinion Change

When examining changes in opinion from the initial preference to the final

decision, we expected to find more people in the unshared condition change their initial

preference. Those in the unshared condition initially received three sections of

information about each candidate, two of which portrayed Winston as the preferred

candidate. After an initial decision, either background information or reference

testimonials were provided which should have shown led participants to select Mitchell,

especially when the critical background information was provided. There was a

significant difference between shared and unshared information where more people in the

unshared condition changed their initial preference, $F(1, 127) = 4.32$, $p = .040$, $\eta^2 = .033$.

Fifty-two percent (52%) of the respondents who initially selected Winston, the inferior

candidate, in both unshared conditions correctly changed their opinion. Only one person

stayed with their initial preference of Winston. Twenty-one percent (21%) of participants

who selected Winston changed their opinion in the shared conditions. In this condition,

previously known information supporting Mitchell was reinforced by HR. Participants in

the unshared condition changed their preference more often than those in the shared

condition as was expected as new information changed initial candidate preference. We

also expected to find more change in the critical conditions as strong evidence was given

to eliminate one of the candidates. This assumption was supported as all but one

participant in the critical conditions correctly changed their initial preference, whereas,

about half of those in the trivial conditions correctly changed their initial preference.

Table 2.
Initial and Final Candidate Preference

Opinion	**Initial Decision**		**Final Decision**	
Change	*Mitchell*	*Winston*	*Mitchell*	*Winston*
Unshared Critical	21	10	31	0
Unshared Trivial	19	15	28	6
Shared Critical	29	4	32	1
Shared Trivial	19	13	25	7

Chi Square

In tests of individual conditions, chi square tests revealed significant differences

between initial and final decisions for both unshared critical, χ^2 (1, 31) = 11.92, p < .05,

and unshared trivial, χ^2 (1, 34) = 5.58, p < .05, conditions. No differences were found

between initial and final candidate decisions in the shared critical, χ^2 (1, 33) = 1.94, p >

.05, and the shared trivial, χ^2 (1, 32) = 2.62, p > .05, conditions.

Because the majority of participants across all conditions selected Mitchell as the

preferred candidate initially, there were not significant differences between groups. When

making a final decision, however, there were significant differences between groups, where participants in the unshared conditions were able to correctly identify Mitchel as the preferred candidate after all of the information had been delivered.

Hypothesis Tests

H1: Unshared trivial vs Unshared critical

Independent samples t-tests were conducted to compare the two conditions in each hypothesis. In tests of the individual hypothesis, Hypothesis 1 predicted that critical unshared information would be rated as more valid, their partner more capable, and the information more impactful in making a decision than trivial unshared information. Results did not support this hypothesis as critical unshared information was not significantly different from trivial unshared information across any of the scales. There was no difference for how valid groups perceived the information, t (60) = .550, p = .585; how capable they found the HR department, t (62) = .77, p = .444; nor how impactful the information was in making a final decision, t (62) = .14, p = .888. These results are inconsistent with the information processing which says that critical unshared information would be viewed as more important than trivial unshared information, see table 3.

Table 3.
Hypothesis 1: Group Comparisons (Unshared Critical vs. Unshared Trivial)

Means by Condition	Unshared Critical		Unshared Trivial	
	M	SD	M	SD
Info Validity	8.11	1.17	7.96	1.04
Partner Capability	8.03	1.45	7.73	1.69

Table 3 cont.
Hypothesis 1: Group Comparisons (Unshared Critical vs. Unshared Trivial)

Means by Condition	Unshared Critical		Unshared Trivial	
	M	SD	M	SD
Rated Decision Impact	7.81	1.60	7.75	1.82

H2: Unshared Critical vs Shared Trivial

For hypothesis 2 we pitted information processing with social validation perspectives. We hypothesized that critical unshared information would be rated higher than trivial shared information in accordance with the information processing perspective. This hypothesis was supported as unshared critical information was rated higher than trivial shared information on the information validity scale, $t(50) = 2.48$, $p = .017$, Human Resources capability scale, $t(58) = 2.24$, $p = .029$, and the rated decision impact scale, $t(55) = 2.45$, $p = .018$, see table 4.

We also hypothesized that following the receiving of information from HR, those in the critical unshared condition would be more likely to select Mitchell as the preferred candidate. Initially there were no differences in candidate choice, $t(61) = -0.68$, $p = .488$, nor certainty, $t(44) = 0.50$, $p = .002$. After all of the information had been provided, those in the critical unshared condition were more likely to choose Mitchell, $t(31) = -0.95$, $p = .006$, and were more confident in their selection, $t(61) = -3.32$, $p = .002$. These findings provide support for the information processing perspective.

Table 4.
Hypothesis 2: Group Comparisons (Unshared Critical vs. Shared Trivial)

Means by Condition	Unshared Critical		Shared Trivial	
	M	SD	M	SD
Info Validity	8.11	1.17	7.08	2.03
Partner Capability	8.03	1.45	7.08	1.86

Table 4 cont.
Hypothesis 2: Group comparisons (unshared critical vs. shared trivial)

Means by Condition	Unshared Critical		Shared Trivial	
	M	**SD**	**M**	**SD**
Rated Decision Impact	7.81	1.60	6.55	2.38

RQ1: Unshared Trivial vs. Shared Trivial

Our first research question aimed to identify whether shared trivial information would be more beneficial than unshared trivial information in a test of the social validation theory when trivial information is presented. Shared trivial information would be validated by the HR department while unshared information would not. Social validation theory would predict that shared trivial information would be rated higher than trivial unshared information. The information processing perspective would predict no differences between groups, as both groups represent only trivial information. Examination of the first research question did not support the social validation theory as trivial unshared information was rated higher than trivial shared information on the information validity scale, $t(46) = 2.19$, $p = .033$, as well as rated decision impact, $t(58) = 2.28$, $p = .026$. No differences were found for how capable the partner was perceived to be, $t(62) = 1.46$, $p = .148$.

No differences were found between initial candidate preference, $t(64) = 0.28$, $p = .778$, or certainty in that choice, $t(54) = -0.32$, $p = .748$; nor were any differences found when selecting a final candidate, $t(64) = -0.43$, $p = .672$, or certainty in that answer, $t(64) = -1.02$, $p = .313$. Once all of the trivial information was presented or repeated, only about half of the participants changed their initial preference towards Mitchell. These

results do not provide support for the social validation theory as shared trivial

information was not rated higher than unshared trivial information.

Table 5.
Research Question 1: Group Comparisons (Unshared Trivial vs. Shared Trivial)

Means by Condition	Unshared Trivial		Shared Trivial	
	M	**SD**	**M**	**SD**
Info Validity	7.96	1.04	7.08	2.03
Partner Capability	7.73	1.69	7.08	1.86
Rated Decision Impact	7.75	1.82	6.55	2.38

RQ2: Unshared Critical vs. Shared Critical

The second research questions looked to see whether critical unshared

information was rated higher than critical shared information, in support of the

information processing perspective, or whether critical shared information would be rated

higher, supporting the social validation theory. There was no difference between critical

shared and unshared conditions across any of the scales. Info validity, $t(59) = -.574$, $p =$

.568; Partner capability, $t(60) = .427$, $p = .671$; Rated decision impact, $t(60) = 01.682$, p

$= .098$.

When making an initial decision, neither condition was more likely to select

Mitchell, $t(52) = 2.01$, $p = .050$; however, those in the shared condition were far more

certain that their choice was correct, $t(58) = 5.47$, $p < .001$. When making a final

decision, no differences were found between the chosen candidates, $t(33) = -0.954$, $p =$

.344, nor certainty, $t(62) = -0.568$, $p = .572$. Besides finding those in the shared critical

condition were more certain of their initial decision, providing some support for the

social validation perspective, results were inconsistent with the social validation and

information processing positions.

After all of the information had been provided, those in the unshared critical

condition were equally as likely to select Mitchell as those in the shared critical

condition, t (33) = -1.00, p = .325 and they were equally as certain in their decisions, t

(62) = -0.57, p = .573. Whether the information was redundant did not have an effect on

the final decision. As long as the information was critical, participants more frequently

selected Mitchell and were more confident.

Table 6.
Research Question 2: Group Comparisons (Unshared Critical vs. Shared Critical)

Means by Condition	Unshared Critical		Shared Critical	
	M	SD	M	SD
Info Validity	8.11	1.17	8.29	1.09
Partner Capability	8.03	1.45	7.87	1.41
Rated Decision Impact	7.81	1.60	8.47	1.55

CHAPTER IV: DISCUSSION

The current study was designed to replicate and extend Wittenbaum's (2004) experiment that resembles a hidden profile task in a selection setting. In hidden profile tasks, utilization of only shared information leads to inferior decision making. The only way to identify the preferred choice is to utilize unshared information. Across hidden profile research, support for both information processing and social validation have been found; however, in most cases supporting social validation, the information being presented was generally not critical, where there is no demonstrable solution (Wittenbaum & Bowman, 2004; Wittenbaum, Hubbell, and Zuckerman, 1999; Greitemeyer et al., 2003; Mojzisch et al., 2008; Parks & Cowlin, 1996; Postmes et al., 2004). These studies found shared information to be rated as more valid, impactful, and the source more capable.

Most studies which examine the impact of shared and unshared information utilize a hidden profile condition. Support for information processing came mostly when critical information was included. In a hidden profile, critical information is generally not shared. For example, the Littlepage and Rogers study (2013) contrasted the effects of shared trivial information, unshared trivial information, and unshared critical information. When critical unshared information is used to determine the correct solution, results tend to find people value this information more, considering it to be more valid, impactful, the source to be more capable. The quality of decision making also improves (Littlepage & Rogers, 2013; Stasser & Stewart, 1992; Mesmer-Magnus & DeChurch, 2009; Larson et al., 2002; Van Swol, 2009; Van Swol and Ludutsky, 2007; Winquist & Larson, 1998). Our study utilized a 2x2 design (critical/trivial) x (shared/unshared) to include a shared

critical information condition that is not present in hidden profile studies. The inclusion of this condition could clarify the seemingly opposing findings supporting both theories. If shared critical information is rated higher than all other types of information, then an interactive effect would occur and offer support for both theories working together to make effective decisions.

Our first hypothesis expected to find critical unshared information to be rated higher than trivial unshared information; however, results did not fully support this. Those in the critical condition did not find the information more valid, HR more capable, nor the information more impactful in making a decision than those in the trivial condition. When making the initial decision, both groups were provided the same information and favored Mitchell equally. After the additional information was provided, those in the unshared critical condition were better able to identify Mitchell as the preferred candidate and were more certain in that final decision. Even though critical information improved the quality and certainty of decisions, perceptions of information validity, impact, and HR capability were not affected. This finding provides partial support for our hypothesis that critical information helped better identify the preferred candidate; however, participants in both conditions rated the additional information as equally influential and valid, and perceived HR as equally competent. These later findings are inconsistent with the information processing perspective which would expect these ratings to be higher for critical unshared information (Littlepage & Rogers, 2013; Stasser & Stewart, 1992; Mesmer-Magnus & DeChurch, 2009; Larson et al., 2002; Van Swol, 2009; Van Swol and Ludutsky, 2007; Winquist & Larson, 1998). These results are slightly confusing as critical information was more informative in that it disqualified

Winston as the preferred candidate, but trivial information was still of some use. Trivial information provided stronger reference endorsements for Mitchell. Both critical and trivial information were perceived to be of value, but critical information had more of an impact on actual decision making. Ultimately the quality of the information was more important in the decision-making process than were perceptions of the validity of the information and HR.

In support of hypothesis 2, we found critical unshared information to be rated higher than trivial shared information in terms of the validity of the information, the capability of the HR department, and the impact that information had on the final decision. When making an initial decision, both groups were equally likely to select Mitchel as the preferred candidate. This is likely due to neither group having been provided information most useful for distinguishing Mitchell as the preferred candidate. After redundant reference information had been provided to those in the shared trivial condition and additional background information provided to the unshared critical condition, those in the unshared critical condition were better able to determine Mitchell as the preferred candidate and were more confident in their decision than the share trivial condition. This provides support for critical information being useful for distinguishing the desired candidate and supports the findings of Littlepage and Rogers (2013) and the information processing perspective (Stasser & Stewart, 1992; Mesmer-Magnus & DeChurch, 2009; Larson et al., 2002; Van Swol, 2009; Van Swol and Ludutsky, 2007; Winquist & Larson, 1998).

The first research question looked to expand beyond the current literature and identify differences between trivial shared and trivial unshared information. Wittenbaum

would have hypothesized that trivial shared information would receive higher ratings and would be more beneficial in determining the final solution (Wittenbaum & Bowman, 2004; Wittenbaum, Hubbell, and Zuckerman, 1999). Littlepage and Rogers (2013), on the other hand, would have hypothesized that the two conditions would be perceived as equal since neither condition represents critical information. The capability of the HR department was found to be equal in both groups. Likewise, candidate preference and certainty of choice did not differ across these conditions. It is surprising that those in the unshared condition found the information to be more valid which is inconsistent with social validation (Wittenbaum & Bowman, 2004; Wittenbaum, Hubbell, and Zuckerman, 1999). Participants also found the unshared information more impactful when making a final decision which is consistent with the information processing perspective (Littlepage & Rogers, 2013; Larson et al., 2002). Perhaps the greater perceived validity and impact of the unshared trivial information indicates that the trivial information was not entirely useless, while it did not disqualify a candidate, the reference information provided in the trivial condition did provide additional support for Mitchell.

The second research question looked to determine if shared or unshared critical information would be rated higher. Information processing says unshared critical information would receive higher ratings (Littlepage & Rogers, 2013), whereas social validation would have said shared critical information would receive higher ratings (Wittenbaum & Bowman, 2004; Wittenbaum, Hubbell, and Zuckerman, 1999. Both were rated equally high for validity, HR capability, and impact of information in making a final decision. The only difference came when those in the shared condition were more certain of their initial answer, but no differences were found in the final decision. Both

shared and unshared conditions equally utilized the critical information to identify the preferred candidate and were equally certain of their final decision. These results were inconsistent with both the social validation and information processing positions.

In general, results provide support for information importance being critical in a selection process; however, some support was also found for social validation. When presented with critical information, participants in the shared condition viewed the information as more impactful when it came to how certain participants felt in their initial decision, which also led to higher ratings for how influential the information from HR was perceived to be when making a decision. Those in the shared condition, while not significantly so, had slightly higher ratings for how valid and impactful they perceived the information to be. Only when information was critical and unshared did participants find the HR department more capable and were more certain in the final decision, even though they were no more likely to select Mitchell than those in the critical shared condition who possessed all the relevant information initially.

The most interesting finding comes from the rated influence of the Human Resource department which found an interaction effect between groups. Greater influence was assigned to HR when information was both critical and socially validated. This provides conditional support for both the social validation and information processing perspectives. Social validation would say that shared information, regardless of the importance of the information, would have greater influence (Wittenbaum & Bowman, 2004; Wittenbaum, Hubbell, and Zuckerman, 1999), while information processing would say that critical information would be rated higher, especially when that information is unshared and critical (Littlepage & Rogers, 2013). It appears that

participants found the Human Resource department to be more influential when information that had already been presented was reinforced, but only when that information clearly disqualified one of the candidates. Information had the least impact on information validity, partner capability, and rated decision impact when it was neither critical nor novel. Similar results were found for the influence points assigned to HR. Thus, results seem to suggest interactive effects between social validity and the perceived decision impact of the information provided by HR. Of the four conditions, shared information had the most influence when it was critical, and he lease influence when it was not critical. Information has the most impact when it is important and socially validated.

When making an initial decision, we expected differences in the shared and unshared conditions. Those in the shared condition had more information to base their decision and would have ideally selected Mitchell, especially in the critical condition, which they did. When looking at initial preferences for those in the unshared condition, results showed that the majority of those participants also selected Mitchell as their preferred candidate for the job. Out of the three categories given to everyone in the initial hiring packet (education, professionalism, teaching experience), Mitchell should have only been the preferred candidate based on teaching experience. One likely explanation for why the majority of participants in the unshared conditions selecting Mitchell could be attributed to the nature of the job itself. Because participants were asked to make a selection for a faculty member at their university, more importance may have been given to the teaching experience of each candidate than to education and professionalism. An alternative explanation is teaching experience was the last piece of information received

in the unshared condition before the initial decision was made, so there may have been a recency effect as well. Thus, final selection decisions may have been biased by the participant's unintended weighting of teaching experience which reduced the impact of unshared critical information. Additional studies could identify if the order of information affects the initial candidate preference. Wittenbaum (1999, 2004) found that when the need for accuracy was high, shared information was perceived as more impactful. If Wittenbaum's findings were supported, then those in the shared condition would have higher ratings than those in the unshared condition. Ratings were only higher if the information was critical and shared in terms of the validity of the information and the impact it had, not in perceptions of source capability.

When making the final selection of a candidate, the importance of information appears to make the biggest impact in terms of using all of the relevant information to make a decision. This comes as a reassurance since the most important information should be used to select a candidate. In critical information conditions, based on the weighting of information, Mitchell should have been the chosen candidate. It should have been clear in these conditions that Mitchell was more qualified for the position as information was designed to clearly disqualify Winston. In the trivial condition, however, the evidence was not as strong. The information provided by the Human Resource department slightly favored Mitchell but still relied partially on participants' judgement. More participants who received critical unshared information changed their initial preference and were correct in doing so. All but one person who received critical information, in this case in the shared critical condition, correctly changed or confirmed their initial assumption that Mitchell was the preferred candidate. There was no

meaningful difference between initial and revised candidate choices in the trivial

information conditions. In both trivial conditions, about half of the participants changed

their initial assumption favoring Winston and identified Mitchell as the preferred

candidate. These results further support the information processing theory which says that

critical information is more important in the decision-making process (Littlepage &

Rogers, 2013). When making a decision, critical information was almost always found to

be more impactful in terms of the information itself and the source of the information,

regardless of whether the information was shared or unshared.

Limitations

The response scale used to assess information validity, partner capability, and

decision impact was anchored by very certain and very uncertain. This is a limitation and

unintentional deviation from the scale found in Wittenbaum's studies (1999, 2004) which

had anchors of strongly agree to strongly disagree. For participants in the unshared

condition, a rating of very certain makes more sense as a rating of ten (10) would read: "I

am very certain the information was not new to me"; however, if you know you have

received the information before, a score of one (1) would read: "I am very uncertain the

information was not new to me." This phrasing includes a double negative which is a bit

more confusing and could explain the somewhat surprising results in the novelty

manipulation check. We expected to find significant differences between the shared and

unshared conditions as those in the shared condition should be able to recognize that they

have already seen the information before.

Another area for improvement is the weighting of information. Based on the

initial information given to all participants, Winston was the most qualified candidate in

terms of education and professional experience. Mitchell was only more qualified for teaching experience; however, the job was for a faculty position at a university where teaching is a major component of the job. The study was also conducted in a classroom setting which may have further primed participants to value teaching over other areas of the CV and be more confident in their selection. In order to better detect the impact of the information provided by HR had in the decision-making process, the situation should be constructed so that Winston would have been more consistently judged to be the more qualified candidate initially.

Future Research

In hidden profile conditions, shared information points to an incorrect choice, whereas unshared information points toward the correct choice. Under these conditions, information processing and social validation positions make contradicting predictions. Information processing suggests that unshared critical information will have a greater impact than shared trivial information in ratings of the validity of the information, the source of the information, and the impact of the decision. Social validation theory predicts the opposite effects. In the broader context, unshared information is not always more critical than shared information. That is to say, shared information may provide more critical information. In such situations, information processing and social validation are not mutually exclusive. Shared critical information not only provide useful information but is also socially accepted.

Future research should continue to examine the information sharing process in a selection context, further testing difference between the information processing and social validation perspectives.

Conclusion

Our hypotheses posited both the information processing and social validation perspectives at odds with one another. Results, however, seem to support a view where both theories work together to influence the use of information in the decision-making process. Critical information was found to be more beneficial than trivial information in terms of how valid and impactful it was in making the final decision. When the HR department provided critical information, they were also considered to be slightly more capable. As a whole, unshared information led to more decision changes, but no changes in perceptions of validity, impact or influence; however, those in the shared condition were more certain in their initial answer. Those in the shared critical condition, while not significantly so, had the highest ratings for information validity, rated decision impact, certainty of the initial decision, and how influential they found the HR department to be. Shared trivial information was always found to be the least valuable.

The results indicate that information is rated as most valid and has the greatest impact when it is both critical and shared, thus supporting the notion that both information processing and social validation theories play a role in the decision-making process. In the future, when presented with a problem in selection or other related scenarios, it is better to discuss and consider all of the relevant information before making an initial decision. It is unwise to review information as it comes in, but instead, wait until all of the relevant information has been collected. While additional information may enable you to make a more informed decision later, possessing all of the relevant information initially will be more impactful and the information will be perceived as more valid, thus leading to higher confidence and better decision quality.

These findings reinforce the vigilant decision-making model (Janice & Mann, 1979) which proposes that the most effective decisions are made when all information is able to be considered. Take the original jury example, in order to give a correct verdict, the jury and court must review all of the relevant information to make a decision. Critical information, presented after a decision, can lead to decision changes, but you will be more confident in your decision if you are able to base the initial decision on all of the relevant information.

REFERENCES

Brodbeck, F. C., Kerschreiter, R., Mojzisch, A., Frey, D., & Schulz-Hardt, S. (2002). The dissemination of critical, unshared information in decision-making groups: The effects of pre-discussion dissent. *European Journal of Social Psychology,32*(1), 35-56. doi:10.1002/ejsp.74

Greitemeyer, T., Schulz-Hardt, S., Brodbeck, F. C., & Frey, D. (2006). Information sampling and group decision making: The effects of an advocacy decision procedure and task expertise. *Journal of Experimental Psychology: Applied, 12*, 31-42. doi: 10.1037/1076-898X.12.1.31

Hinsz, V. B. (2004). Metacognition and mental models in groups: An illustration with metamemory of group recognition memory. In Salas, E & Stephen, E. M. *Team Cognition: Understanding the Factors That Drive Process and Performance,* 33-58. American Psychological Association, Washington, DC.

Hinsz, V. B. (1990). Cognitive and consensus processes in group recognition memory performance. *Journal of Personality and Social Psychology,59*(4), 705-718. doi:10.1037/0022-3514.59.4.705

Janis, I., & Mann, L. (1979). *Decision making: A psychological analysis of conflict, choice, and commitment*. New York, The Free Press, A division of Macmillan Inc.

Larson, C. E., & LaFasto, F. M. (1999). *Teamwork: What must go right - what can go wrong*. Newbury Park (Calif.): Sage.

Larson, J. R. (2010) *In search of synergy in small group performance.* New York: Psychology Press

Larson, J. R., Christensen, C., Franz, T. M., & Abbott, A. S. (1998). Diagnosing groups: The pooling, management, and impact of shared and unshared case information in team-based medical decision making. *Journal of Personality and Social Psychology,75*(1), 93-108. doi:10.1037//0022-3514.75.1.93

Larson, J.R., Sargis, E.G., Elstein, A.S., & Schwartz, A. (2002). Holding shared versus unshared information: Its impact on perceived member influence in decision-making groups. *Basic and Applied Social Psychology, 24*, 145-155. doi:10.1207/S15324834BASP2402_6

Laughlin, P. R. (1980). Social combination processes of cooperative problem-solving groups on verbal intellective tasks. In M. Fishbein (Ed.), *Progress in social psychology* (pp. 127-155). Hillsdale, NJ: Erlbaum.

Littlepage, G., Perdue, E. B., & Fuller, D. K. (2012). Choice of Information to Discuss: Effects of Objective Validity and Social Validity. *Small Group Research,43*(3), 252-274. doi:10.1177/1046496411435419

Littlepage, G., Rogers, S. (2013). Reactions to Shared and Unshared Information. Unpublished manuscript, Department of Industrial and Organizational Psychology, Middle Tennessee State University, Murfreesboro, Tennessee.

Mesmer-Magnus, J. R., & DeChurch, L. A. (2009). Information sharing and team performance: A meta-analysis. *Journal of Applied Psychology, 94*, 535-546. doi: 10.1037/a0013773

Mojzisch, A., Schulz-Hardt, S., Kerschreiter, R., Brodbeck, F. C., & Frey, D. (2008). Social validation in group decision-making: Differential effects on the decisional impact of preference-consistent and preference-inconsistent information. *Journal*

of Experimental Social Psychology,44(6), 1477-1490.

doi:10.1016/j.jesp.2008.07.012

Parks, C. D., & Cowlin, R. A. (1996). Acceptance of uncommon information into group

discussion when that information is or is not demonstrable. *Organizational*

Behavior and Human Decision Processes,66(3), 307-315.

doi:10.1006/obhd.1996.0058

Postmes, T., Spears, R., & Cihangir, S. (2004). Quality of decision making and group

norms. *Journal of Personality and Social Psychology,80*, 918-930.

doi:10.1037/0022-3514.80.6.918

Stasser, G., & Stewart, D. (1992). Discovery of hidden profiles by decision-making

groups: Solving a problem versus making a decision. *Journal of Personality and*

Social Psychology, 63, 426-434. doi:10.1037/0022-3514.63.3.426

Stasser, G., & Titus, W. (1987). Effects of information load and percentage of shared

information on the dissemination of unshared information during group

discussion. *Journal of Personality and Social Psychology,53*(1), 81-93.

doi:10.1037/0022-3514.53.1.81

Stasser, G. & Titus, W. (1985). Pooling unshared information in group decision making:

Biased information sampling during discussion. *Journal of Personality and Social*

Psychology, 48, 1467-1478. doi:10.1037/0022-3514.48.6.1467

Toma, C., & Butera, F. (2009). Hidden profiles and concealed information: Strategic

information sharing and use in group decision making. *Personality and Social*

Psychology Bulletin,35(6), 793-806. doi:10.1177/0146167209333176

Van Swol, L. M. (2009). Factors affecting decision maker's preference for unshared

    information. *Group Dynamics: Theory, Research, and Practice,13*(1), 31-45.

    doi:10.1037/a0014344

Van Swol, L. M., & Ludutsky, C. L. (2007). Tell me something I don't know: Decision

    makers' preference for advisors with unshared information. *Communication*

    Research,34(3), 297-312. doi:10.1177/0093650207300430

Winquist, J.R., & Larson, J.R. (1998). Information pooling: When it impacts group

    decision making. *Journal of Personality and Social Psychology, 74*, 371-377.

    doi:10.1037/0022-3514.74.2.371

Wittenbaum, G. M., & Bowman, J. M. (2004). A social validation explanation for mutual

    enhancement. *Journal of Experimental Social Psychology,40*(2), 169-184.

    doi:10.1016/s0022-1031(03)00091

Wittenbaum, G. M., Hubbell, A. P., & Zuckerman, C. (1999). Mutual enhancement:

    Toward an understanding of the collective preference for shared

    information. *Journal of Personality and Social Psychology,77*(5), 967-978.

    doi:10.1037/0022-3514.77.5.967

APPENDICES

Appendix A: Questionnaire

Questions
Please put a checkmark with the candidate that you felt had the…

1. Which candidate do you think is better qualified for the job of assistant professor at Middle Tennessee State University?
2. Which candidate do you think is better qualified for the job of assistant professor at Middle Tennessee State University?
3. How certain are you that your chosen candidate is better?

At this point the Human Resource Department presents either the background or reference information

4. Which candidate do you think is better qualified for the job of assistant professor at Middle Tennessee State University?
5. How certain are you that your chosen candidate is better?
6. The information the Human Resources Department provided to me was important.
7. The information the Human Resources Department provided to me was relevant to the task
8. The information the Human Resources Department provided to me was accurate.
9. The Human Resources Department is knowledgeable about the applicant.
10. The Human Resources Department is competent to provide relevant information about the applicants.
11. The Human Resources Department is a credible source of information about the applicants.
12. The information provided by the Human Resources Department had a lot of influence on decision about the job applicants.
13. The information provided by the Human Resources Department affected my opinions about the importance of various items of information about these applicants.
14. The information provided by the Human Resources Department changed my view of the applicants.
15. On the whole, the information provided by the Human Resources Department was not familiar to me.
16. On the whole, the information provided by the Human Resources Department was not information that I originally knew about the applicants.
17. The information provided by the Human Resources Department helped choose one of the applicants.

18. The information provided by the Human Resources Department clearly removed one of the applicants from the hiring decision.
19. Now divide 100 points between you and the Human Resources Department based on how much influence each had on determining the applicant to hire. (e.g. giving yourself and the Human Resources Department 50 points, each would indicate that each had equal influence) Please make sure that the points assigned to you and the points assigned to the Human Resources Department add up to 100.
20. Look back over the lists of information (both information you discovered, and information provided by the Human Resources Department). Consider all the information, both from the list of information originally discovered by you and from the list provided by the Human Resources Department. Rank the below pieces of information by importance to your final decision on a scale of 1 to 4, (1 = *most important*; 4 = *least important*).

Participants rated their preferred candidate and perceptions of the information provided on a 10-point Likert scale ranging from very uncertain to very certain. The scale items are listed below in reference to which hypothesis they are measuring.

1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 : 9 : 10

| very uncertain | neither certain nor uncertain | very certain |

* Q6-8 were combined to form the Information Validity score
Q9-11 were averaged to form the Partner Capability score
Q12-14 were averaged to form the Rated Decision Impact score
Q15-16 were averaged to perform a manipulation check for information novelty
Q17-18 were averaged to perform a manipulation check for information importance

The following table represents the information provided to participant in each of the conditions. The candidate names indicate the candidate received the most support from the information provided in that category.

	Information Category	**Shared Critical**	**Unshared Critical**	**Shared Trivial**	**Unshared Trivial**
	Education	Winston	Winston	Winston	Winston
Information initially presented to participant	*Professional Experience*	Winston	Winston	Winston	Winston
	Teaching Experience	Mitchell	Mitchell	Mitchell	Mitchell
	Background	Mitchell			

	Reference Testimonials			Mitchell	
Information Provided by HR	*Background*	Mitchell	Mitchell		
	Reference Testimonials			Mitchell	Mitchell

Appendix B: IRB Form

IRB

INSTITUTIONAL REVIEW BOARD
Office of Research Compliance,
010A Sam Ingram Building,
2269 Middle Tennessee Blvd
Murfreesboro, TN 37129

**MIDDLE
TENNESSEE**

STATE UNIVERSITY

IRBN007 – EXEMPTION DETERMINATION NOTICE

Wednesday, March 20, 2019

Investigator(s):   Glenn Littlepage; Tara Schlacter
Investigator(s') Email(s):   Glenn.Littlepage@mtsu.edu; ts5h@mtmail.mtsu.edu
Department: Psychology

Study Title: Effects of Task Demonstrability and Information Distribution of
                      Evaluation and Utilization of Information
Protocol ID: **18-1136**

Dear Investigator(s),

The above identified research proposal has been reviewed by the MTSU Institutional Review
Board (IRB) through the **EXEMPT** review mechanism under 45 CFR 46.101(b)(2) within the
research category *(2) Educational Tests* A summary of the IRB action and other particulars in
regard to this protocol application is tabulated as shown below:

IRB Action	EXEMPT from furhter IRB review***	
Date of expiration	**NOT APPLICABLE**	Approval 01/18/2018
Participant Size	140 [One Hundred Forty]	
Participant Pool	**Adults 18+**	
Mandatory Restrictions	1. Participants must be age 18+	
	2. Informed consent must be obtained	
	3. Identifiable data may not be collected/stored with participant responses	
Additional Restrictions	**None at this time**	
Comments	None at this time	
Amendments	**Date**	**Post-Approval Amendments**
	10/04/2018	Kerstie Hillman (kmh2b - CITI7405106) has been approved to join the study as a co-investigator.
	03/15/2019	1. Seth Thomas (sat4r _ CITI28714284) has been approved to join the investigating team. 2. A revised recuitment script (on file) to be used for inducement and advertisement is approved.
	03/20/2019	A revised informed consent template to be used for in-person data collection is approved

IRBN007   Version 1.2   Revision Date 03.08.2016

Institutional Review Board   Office of Compliance   Middle Tennessee State University

***This exemption determination only allows above defined protocol from further IRB review such as continuing review. However, the following post-approval requirements still apply:

- Addition/removal of subject population should not be implemented without IRB approval
- Change in investigators must be notified and approved
- Modifications to procedures must be clearly articulated in an addendum request and the proposed changes must not be incorporated without an approval
- Be advised that the proposed change must comply within the requirements for exemption
- Changes to the research location must be approved – appropriate permission letter(s) from external institutions must accompany the addendum request form
- Changes to funding source must be notified via email (irb_submissions@mtsu.edu)
- The exemption does not expire as long as the protocol is in good standing
- Project completion must be reported via email (irb_submissions@mtsu.edu)
- Research-related injuries to the participants and other events must be reported within 48 hours of such events to compliance@mtsu.edu

The current MTSU IRB policies allow the investigators to make the following types of changes to this protocol without the need to report to the Office of Compliance, as long as the proposed changes do not result in the cancellation of the protocols eligibility for exemption:

- Editorial and minor administrative revisions to the consent form or other study documents
- Increasing/decreasing the participant size

The investigator(s) indicated in this notification should read and abide by all applicable post-approval conditions imposed with this approval. Refer to the post-approval guidelines posted in the MTSU IRB's website. Any unanticipated harms to participants or adverse events must be reported to the Office of Compliance at (615) 494-8918 within 48 hours of the incident.

All of the research-related records, which include signed consent forms, current & past investigator information, training certificates, survey instruments and other documents related to the study, must be retained by the PI or the faculty advisor (if the PI is a student) at the sacure location mentioned in the protocol application. The data storage must be maintained for at least three (3) years after study completion. Subsequently, the researcher may destroy the data in a manner that maintains confidentiality and anonymity. IRB reserves the right to modify, change or cancel the terms of this letter without prior notice. Be advised that IRB also reserves the right to inspect or audit your records if needed.

Sincerely,

Institutional Review Board
Middle Tennessee State University

Quick Links:
    Click here for a detailed list of the post-approval responsibilities.
    More information on exmpt procedures can be found here.