A person-centered approach to the study of commitment

John P. Meyer, Laura J. Stanley, Robert J. Vandenberg

1. Introduction

Over the last few decades, commitment theory has become increasingly complex. Among other things, it has been proposed that commitment can be divided into component parts (Meyer & Allen, 1991, 1997; O'Reilly & Chatman, 1986), be directed at different targets (Becker, 1992; Cohen, 2003; Morrow, 1983; Reichers, 1985), or both (Meyer & Herscovitch, 2001). Moreover, the components and foci of commitment can combine in various ways that have implications for employee behavior and well being. We argue here that the complexity created by these potential combinations poses a challenge for the variable-centered approaches (e.g., regression; structural equation modeling) commonly used in commitment research. Therefore, we propose that there may be benefits to adopting the person-centered strategy (e.g., cluster analysis; latent profile analysis) that is gaining currency in the organizational sciences (cf. Vandenberg & Stanley, 2009; Wang & Hanges, 2011; Zyphur, 2009) as a complement to the more traditional variable-centered approach.

This call for the adoption of a person-centered strategy is not new. Indeed, in a critique of personality research written over forty years ago, Block (1971, p. 13) noted that there are limits to what we can learn from strict reliance on a variable-centered approach. Specifically, Block noted that variable-centered analyses are appropriate if the goal is to understand how individuals are different or to capture relationships among a limited number of variables within a group of individuals. However, he argued that researchers also need to understand configurations of variables and how they operate within individuals.
More recently, Morin, Morizot, Boudrias, and Madore (2011, p 59) expressed a similar sentiment with regard to commitment research. They pointed out that, although we continue to learn a great deal about commitment using increasingly sophisticated variable-centered research strategies, these strategies have their limitations. Specifically, they stated:

... the fact that most studies relied on variable-centered analyses (e.g., multiple regression or structural equation modeling) means that their results represent a synthesis (or averaged estimate) of the relationships observed in every individual from the sample under study, without systematically considering the possibility that these relationships may meaningfully differ in subgroups of participants. Results from variable-centered analyses are obviously very important in their own right, but they simply ignore the fact that the participants may come from different subpopulations in which the observed relations between variables may differ, quantitatively and qualitatively. Conversely, person-centered analyses strive to identify distinct profiles of employees (i.e., a typology; see Bailey, 1994; Bergman, 2000; Magnusson, 1998). Typologies, or taxonomies, represent classification systems designed to help categorize individuals more accurately into qualitatively and quantitatively distinct profiles ...

It is important to note that neither Block (1971) nor Morin et al. (2011) argued that variable-centered strategies should be replaced by a person-centered approach. To the contrary, the two are viewed as complementary strategies that provide different perspectives on a phenomenon of interest (cf. Zyphur, 2009).

The person-centered approach is so labeled because it takes into account intra-individual variation within a system\(^1\) of variables (Marsh, Lüdtke, Trautwein, & Morin, 2009). That is, it acknowledges that variables can combine differently for some types of individuals than they do for others. Thus, rather than focusing on the variables per se, and how they relate within the population as a whole, person-centered research identifies and compares subgroups of individuals sharing similar patterns of variables within a population. Individuals are assigned to subgroups based on a configuration of variables and are therefore viewed from a more holistic perspective than is the case in variable-centered research (Vandenbark & Stanley, 2009). Consequently, person-centered research is well suited to addressing research questions regarding how commitment components and/or foci combine, how these combinations are experienced, and how groups with varying combinations differ with regard to other variables.

To make our case for more person-centered commitment research, we begin by elaborating on some of the recent developments in commitment theory. We then illustrate how these developments have been addressed using a variable-centered approach, and identify some of the limitations of this approach. Next, we describe how a person-centered strategy complements the variable-centered approach and can be used to address a different set of questions. This is followed by a brief review of recent person-centered research and a discussion of the strengths and limitations of the overall approach and specific analytic techniques. Finally, we provide an agenda for future research and discuss the practical implications of taking a person-centered perspective.

2. Developments in commitment theory

As noted earlier, over the last few decades, commitment theory has become increasingly complex. Theorist have moved from the more traditional unidimensional conceptualizations of commitment (e.g., Mowday, Porter, & Steers, 1982), typically directed at the organization, toward a multiple-component (e.g., Meyer & Allen, 1991, 1997; O'Reilly & Chatman, 1986) and multiple-foci (e.g., Becker, 1992; Morrow, 1983; Reichers, 1985) perspective. To illustrate, we focus primarily on Meyer and Herscovitch's (2001) general model of commitment. This model evolved from Meyer and Allen's (1991, 1997) three component model (TCM) of organizational commitment and was based on the premise that the same three-component structure could be applied to all commitments regardless of their focus (e.g., organization, occupation, union, supervisor, team, customer). The general form of the TCM is ideally suited to our objectives here because it has been tested using both variable-centered and person-centered research strategies. Consequently, the contrast between the two approaches and their relative strengths and limitations can be clearly identified. Although Meyer and Herscovitch acknowledged that employees could experience commitments to multiple foci, they did not address the issue of how commitments to multiple foci might combine. However, this issue has been addressed by others (e.g., Gordon & Ladd, 1990; Gouldner, 1957; Lee, Carswell, & Allen, 2000; Wallace, 1993) and can further serve to compare and contrast the variable-centered and person-centered research strategies.

2.1. Multiple components of commitment

Meyer and Allen (1991) originally proposed that commitment to an organization can be accompanied by different mindsets (desire, obligation, perceived cost). In their pure forms, these are referred to as affective (AC), normative (NC), and continuance (CC) commitment, respectively. Meyer and Allen further argued that AC, NC, and CC would all correlate negatively to turnover intention and turnover, but that they would relate differently to on-the-job behavior. Specifically, AC was expected to have the strongest positive correlation with discretionary behaviors of benefit to the organization, followed by NC; CC was expected to be unrelated or negatively related to these behaviors. Predictions concerning CC were based on the premise that employees with a

\(^{1}\) We use the term “system” here to refer to a set of variables that can combine in various ways that have implications for how they are experienced and relate to other variables of interest. We argue that the components of commitment and commitments to multiple foci constitute such systems. Other examples include personality traits (Martel, Goth-Owens, Martinez-Torteya, & Niggs, 2010), goal orientations (Pastor et al., 2007), motivational states (Stephane, Boiché, & Le Scanff, 2010), and self-regulatory dimensions (Klusmann, Kunter, Trautweing, Lüdtke, & Baumert, 2008).
CC mindset might feel trapped in their particular situation and therefore be reluctant to do more than was required of them. Early variable-centered tests of these hypotheses (i.e., correlations) were generally consistent with prediction (Allen & Meyer, 1996; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002).

According to Meyer and Allen (1991), AC, NC, and CC reflect components rather than distinct types of commitment. Each of the three components can vary in strength and an employee's overall commitment mindset reflects the combination of the individual components. One implication of this notion is that the three components can have additive and/or interactive effects on behavior. However, Meyer and Allen did not elaborate on the nature of these effects and therefore provided little guidance for research (cf. Jaros, 1997). Meyer and Herscovitch (2001) addressed this gap in theory by offering a series of propositions. For example, they proposed that, for behaviors defined within the terms of a commitment (i.e., focal behaviors), the three components would be compensatory—that is, the focal behavior should occur as long as at least one of the components (AC, NC, or CC) is strong. If this is the case, the correlation between the individual components and a focal behavior will be strongest when the other two components are weak (i.e., there is nothing to compensate for a low score on the component of interest). For discretionary behaviors (i.e., behaviors that fall outside the terms of the commitment), Meyer and Herscovitch predicted a different pattern of interactions. Specifically, they proposed that high levels of CC (and possibly NC) would have a mitigating effect on the otherwise positive association between AC and behavior. Their rationale was that the perceived constraints associated with strong CC (and possibly NC) could create resistance, thereby leading to less willingness to engage in discretionary behaviors of relevance to the target than would be the case for pure AC.

Meyer and Herscovitch (2001) went beyond predicting interactions and speculated on the nature and consequences of specific combinations of the three components of commitment. More specifically, they identified eight theoretical configurations, or profiles, of commitment (i.e., based on patterns of high and low scores on AC, NC, and CC) and hypothesized how individuals with these profiles might differ. For example, they argued that employees with an AC-dominant profile act out of pure desire and therefore should be more likely than employees with any other profile to engage in focal and discretionary behaviors of benefit to the target of their commitment. When strong AC is combined with CC, and possibly NC, they suggested that the desire to pursue a course of action might be mitigated by a sense of constraint associated with perceived cost and/or obligation. These propositions are compatible with, but differ from, the interaction hypotheses described above because they address specific combinations of the three components of commitment. As we discuss below, testing these propositions requires a different analytic strategy designed to identify groups of individuals showing similar patterns of the three components of commitment.

### 2.2. Multiple foci of commitment

Although it has long been recognized that employees can develop commitments to multiple constituencies (Morrow, 1983; Reichers, 1985), interest in other potential foci of commitment (e.g., career, supervisor, team, etc.) greatly increased at the turn of the millennium as economic conditions threatened to weaken employee–organization linkages and the relevance of commitment to the organization (Cohen, 2003; Cooper-Hakim & Viswesvaran, 2005). Various categorizations of foci have been developed (e.g., Becker, 1992; Cohen, 2003; Morrow, 1993), most with considerable overlap, but none has been the dominant focus of theory or research. Therefore, for present purposes, we simply note that there are many potential foci of employee commitment and, as with commitment components, this raises questions about how they might combine to influence behavior. Although the existence of multiple components and foci of commitment creates the possibility for even more complex combinations, most multi-foci research has treated commitment as unidimensional (typically characterized as AC; see Stinglhamber, Bentein, & Vandenberghe, 2002; Tsoumis & Xenikou, 2010; and Wasti & Can, 2008 for exceptions). Therefore, we focus here on multiple foci alone and address the combination of components and foci later as a potential future direction for research.

There have been two general theoretical perspectives on how multiple commitments might combine—one focusing on conflict and the other on compatibility (Cooper-Hakim & Viswesvaran, 2005). For example, Gouldner (1957) discussed the potential for conflict between commitment to the organization and commitment to one’s profession, and identified two types of employees, locals and cosmopolitans, based on the relative strength of these commitments. Gordon and Ladd (1990) suggested that commitments to a union and organization might create similar opportunities for conflict. On the other hand, it has also been argued that commitments to different foci can be compatible. Indeed, it has been proposed that multiple commitments (e.g., organizational and professional) can be mutually reinforcing under conditions where the goals and values of the foci are overlapping (Lee et al., 2000; Meyer & Allen, 1997; Wallace, 1993). Vandenberg and Scarpello (1994) proposed and demonstrated in a longitudinal investigation that occupational commitment can serve as an antecedent to the development of organizational commitment.

### 2.3. Summary

According to theory, commitments have multiple components and can be directed at multiple foci. The components can combine in various ways, as can commitments to the different foci, with potentially important implications for behavior. We turn now to

---

2 Brown (1996, p. 232) defined the terms of a commitment as “whatever the parties involved happen to establish or agree upon, either explicitly through statements and declarations or implicitly through behaviors.” Viewed from the employee’s perspective, these terms define what he/she must do to fulfill the commitment. Meyer and Herscovitch (2001) suggested that any actions not specifically included in these terms can be considered by employees to be discretionary.

3 We use the term “dominant” to refer to those components with high scores in a profile.
discussion of how this theory has been tested, first using the traditional variable-centered approach and more recently using person-centered strategies.

3. Variable-centered research

Applications of variable-centered analytic strategies date back to early commitment research where the dominant questions focused on identifying potential antecedents and consequence of commitment. Indeed the strategy was relatively straightforward — correlate X with Y. With the introduction of multiple components and multiple foci, the research questions became more complicated (e.g., Does X contribute over and above Z to the prediction of Y? Does the impact of X on Y vary as a function of Z?). However, the approaches taken to answer these questions have generally remained the same. That is, the focus is on identifying the relevant variables and examining the relations among them. The objective is to explain as much variance as possible in a criterion of interest (e.g., intention to stay, job performance) from a set of predictors (e.g., multiple components of commitment; commitments to multiple foci). Although this variable-centered approach has contributed much to our understanding of commitment, it also has limitations. In the following sections we highlight some of the contributions of the variable-centered approach as they pertain to research on multiple components and multiple foci of commitment. We then turn to a discussion of some of the limitations.

3.1. Multiple components of commitment

Meyer and Herscovitch’s (2001) predictions concerning how the three components of commitment might interact to influence focal and discretionary behaviors have been tested using moderated multiple regression analyses (e.g., Gellatly, Meyer, & Luchak, 2006; Johnson, Groff, & Taing, 2009). These studies demonstrated that the components do interact, but not always in accord with prediction. For example, Gellatly et al. found evidence of a three-way interaction among the commitment components in the prediction of both intention to stay and organizational citizenship behavior (OCB). Simple slope analyses revealed that each of the components related more strongly to turnover intentions when the other two were weak (i.e., the components were compensatory). However, there was no evidence for a mitigating effect of CC or NC on the relation between AC and OCB — to the contrary, AC related most strongly to OCB when NC and CC were also strong. Johnson et al. (2009) referred to the latter as a synergistic effect, and found similar evidence with OCB as an outcome. In contrast to Gellatly et al., Johnson et al. also found evidence for a synergistic (as opposed to compensatory) effect of CC in the prediction of turnover cognition.

Although still relatively few in number, these regression studies contribute in important ways to our understanding of how the commitment components relate to outcomes of interest. Specifically, it appears that the relation between a particular commitment component and behavior can vary as a function of one or both of the other components. Among other things, these findings suggest that simple correlations between the individual components and other variables, including those reported in meta-analyses (e.g., Cooper-Hakim & Viswesvaran, 2005; Mathieu & Zajac, 1990; Meyer et al., 2002) can be misleading. However, as we discuss below, there are questions about the nature of these interactions that a variable-centered approach is not well suited to address. First, we turn our attention to theory and variable-centered research pertaining to the multiple foci of commitment.

3.2. Multiple foci of commitment

Again, recall that there have been two general theoretical perspectives on how multiple commitments might combine — one focusing on conflict and the other on compatibility. To date, most variable-centered multi-foci research has focused on correlations among the commitments and/or on their independent and additive effects on behavior (e.g., Becker & Billings, 1993; Meyer, Allen, & Smith, 1993; Vandenberghhe, Bentein, & Stinglhamber, 2004). In a recent meta-analysis, Cooper-Hakim and Viswesvaran (2005) identified 24 commitment constructs (varying primarily in focus) and were able to estimate true score correlations for 94 combinations. They found strong evidence for a positive manifold — indeed 84 of the estimated correlations were positive. This suggests that commitments to different foci can be compatible. However, the correlations were modest in magnitude and there was considerable unexplained variance. This raises the possibility that commitments to different foci can be compatible for some employees but conflicting for others.

Research focusing on the behavioral implications of multiple commitments has generally reported the strongest relations between commitment and behavior directed at the same target (e.g., Becker & Kernan, 2003; Redman & Snape, 2005). However, cross-over effects (i.e., effects of commitment to one entity on behavior of relevance to another) are also frequently reported (e.g., Meyer et al., 1993; Vandenberghhe & Bentein, 2009). These findings attest to the importance of examining commitments to multiple foci, but do not specifically address the issue of compatibility or conflict.

Little attention has been given to date to potential interactions among commitments to multiple foci (Johnson et al., 2009). In one recent exception, Vandenberghhe and Bentein (2009) found that AC to the supervisor and organization interacted in the prediction of intention to remain. Consistent with the compensatory model described above, the relation between AC to supervisor and intention to remain was greater when AC to the organization was weak as opposed to strong. Thus, as was the case in component research, these findings suggest that bi-variate correlations between commitment to one particular target and other variables of interest might be misleading. They also hint at, but do not specifically address, the issue of compatibility and conflict among commitments to multiple foci.
3.3. Summary and evaluation

The variable-centered approach to studying commitment has served us well and will continue to do so as we continue to grapple with the complex questions raised by the introduction of multiple components and foci in commitment theory. Moreover, new developments in variable-centered analytic procedures are emerging regularly and are allowing us to ask and answer new and important research questions. One excellent example is the introduction of latent growth modeling (LGM), which allows researchers to examine the dynamic relations among variables as they change over time (see Vandenberg & Stanley, 2009 for a more detailed discussion; see Bentein, Vandenberg, Vandenberghe, & Stinglhamber, 2005, and Vandenberghe, Panaccio, Bentein, Mignonac, & Roussel, 2011 for illustrative examples). However, the variable-centered approach also has limitations and may not be well suited to addressing some of the questions that are beginning to emerge.

For example, variable-centered strategies have limited power to detect complex interactions (Aguinis & Gottfredson, 2010). Thus, as our questions about the combinations of components and/or foci of commitment become more complex, they can exceed the capabilities of variable-centered analytic techniques. Only one study to date has been able to detect a three-way interaction among AC, NC, and CC (Gellatly et al., 2006), so the challenge of identifying interactions among commitments to four or more foci (e.g., Morin et al., 2011) or among a combination of multiple components and foci (e.g., Stinglhamber et al., 2002; Tsoumbris & Xenikou, 2010) may be insurmountable.

Another limitation of variable-centered strategies is that they are based on the assumption that the sample under investigation, and the population from which it is drawn, is homogeneous (i.e., there is a single probability distribution: Pastor, Barron, Miller, & Davis, 2007). Under this assumption, any main or interactive effects identified in variable-centered analyses, and the principles they reflect, are presumed to apply to the entire sample. If this assumption is violated, then the parameter estimates obtained in these analyses will be misleading.

Finally, the variable-centered approach is ill-suited to answering a number of important questions raised in commitment theory. For example, recall that Meyer and Herscovitch (2001) argued that AC, NC, and CC can combine to form different profiles. They also developed a set of propositions to explain how these profiles form and how they relate to behavior. Testing these hypotheses requires identifying and comparing profile groups within a sample of employees. The detection of interactions among the commitment components in variable-centered analyses implies that subgroups might exist, but falls short of identifying the groups per se, and does not treat profile membership as a variable that can be used in subsequent analyses (Vandenberg & Stanley, 2009). In the following section we describe how a person-centered approach can help to address this and other limitations in the variable-centered approach.

4. The person-centered approach

As noted earlier, the objective of person-centered research is to identify subgroups within a sample of individuals that differ meaningfully with regard to complex systems of variables. To add maximum value, these subgroups should differ qualitatively as well as quantitatively (Marsh et al., 2009). Quantitative differences exist when the relative strength of all variables within a system differs across groups, whereas qualitative differences exist when the hierarchical ordering of the scores on this set of variables is different for some groups than it is for others. For example, if three groups were identified, one with high scores, one with moderate scores, and one with low scores on all three components of commitment (AC, NC, and CC), the differences would be considered quantitative only. In this case, there might be little advantage to taking a person-centered approach (although these groups might still differ with regard to variances or covariances among the components: see Pastor et al., 2007). However, if one group had high scores on AC and NC but low scores on CC, another had high scores on AC but low scores on NC and CC, and the third had high scores on NC and CC and low scores on AC, the differences would be considered qualitative. It is under these conditions that a person-centered approach has its greatest utility.

In the following discussion, we focus on the key differences between the person-centered and variable-centered approaches. Table 1 provides a summary comparison of the two approaches with regard to purpose, assumptions, and strengths. It also identifies specific analytic techniques and provides examples of how the two approaches have been applied in commitment research. Again, it is important to keep in mind that the person-centered and variable-centered approaches are complementary. Variable-centered approaches offer information about the variance in one variable explained by one or more other variables while person-centered approaches offer information about how systems of variables operate within individuals. As such, these two approaches are often used in combination within a single study. For example, person-centered strategies can be used to identify subgroups of individuals sharing similar patterns of variables. Membership in these groups can then be treated as a variable for use in variable-centered analyses (e.g., relating membership to potential antecedents and consequences). For now, however, we focus on the distinctions and illustrate how person-centered research has been used to address aspects of commitment theory not easily tested using a variable-centered approach.

The data analytic strategies most commonly used in person-centered research are midpoint splits, cluster analysis, and mixture modeling (e.g., latent profile analysis). All three of these strategies have been applied recently in commitment research. Some approaches have clear advantages over others (Morin et al., 2011; Pastor et al., 2007; Vandenberg & Stanley, 2009). We address the strengths and limitations in more detail below. First we illustrate how the person-centered approach in general has been applied to address issues pertaining to the combination of multiple components and foci of commitment.
these findings, Gellatly et al. suggested that the other components in a profile provide a (obligation) might behave differently depending on whether it is combined with AC (desire) or CC (perceived cost). Based on the mitigating effects of CC and NC to remain or OCB. Even more interesting was the finding that intention to stay and OCB were greater in the AC/NC-dominant profile group. For example, contrary to expectation, the AC/CC-dominant profile group did not differ from the AC-dominant group in intention to stay and OCB. Although some of Meyer and Herscovitch’s propositions were confirmed, there were some noteworthy exceptions. (2006) created eight profile groups using median splits and compared their mean scores on self-report measures of intention to stay and OCB. Although the use of a median-split approach allowed investigators to compare the eight profile groups identified by Meyer and Herscovitch (2001) offered a set of propositions concerning how AC, NC, and CC combine to form profiles and how these profiles develop and are related to behavior. In one of the earliest tests of these propositions, Gellatly et al. (2006) created eight profile groups using median splits and compared their mean scores on self-report measures of intention to stay and OCB. Although some of Meyer and Herscovitch’s propositions were confirmed, there were some noteworthy exceptions. For example, contrary to expectation, the AC/CC-dominant profile group did not differ from the AC-dominant group in intention to remain or OCB. Even more interesting was the finding that intention to stay and OCB were greater in the AC/NC-dominant group than in the CC/NC-dominant group. This suggests that employees with strong NC experienced as an imperative (i.e., a need to do what is expected). However, when combined with strong CC in the absence of AC, NC might be experienced as an “indebted obligation” (i.e., a desire to do the right thing). However, when combined with strong CC in the absence of AC, NC might be experienced as an “indebted obligation” (i.e., a need to do what is expected). Other studies using a median-split approach obtained similar results. For example, in a study of Greek employees, Markovits, Davis, and van Dick (2007) found the highest levels of intrinsic job satisfaction among those with fully-committed (i.e., high scores on all three components), AC-dominant, and AC/NC-dominant profiles. In studies of employee commitment to organizational change initiatives, Herscovitch and Meyer (2002) and Meyer, Srinivas, Lal, and Topolnytsky (2007) found that employees with fully-committed, AC/NC-dominant, and AC-dominant profiles reported the highest levels of discretionary support for the changes, whereas those with CC-dominant and uncommitted profiles tended to report the lowest levels. Again, the evidence suggests that strong CC and NC do not mitigate the positive effects of strong AC, and, importantly, the behaviors associated with strong CC and NC depend on the context created by the other components. Although the use of a median-split approach allowed investigators to compare the eight profile groups identified by Meyer and Herscovitch (2001), it is not well suited to identifying naturally occurring subgroups within a population (i.e., the subgroups are forced). Therefore, a number of investigators used cluster analysis to identify and compare profile groups within their samples (e.g., Sinclair, Tucker, Wright, & Cullen, 2005; Somers, 2009, 2010; Tsoumbris & Xenikou, 2010; Wasti, 2005). For example, Wasti (2005) used k-means cluster analysis with data from two samples of Turkish employees and found six distinguishable profile groups in each. Common to both groups were fully committed, uncommitted, AC-dominant, CC-dominant, and AC/NC-dominant profile groups. In the first sample, she also identified an all-moderate profile group, and in the second she obtained a CC/NC-dominant group. Somers (2009, 2010) identified similar subgroups using cluster analysis with U.S. samples. Sinclair et al. measured only AC and

<table>
<thead>
<tr>
<th>Variable-centered</th>
<th>Person-centered</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>Identify unobserved subgroups who share similar levels of, and/or relationships among, a system of variables.</td>
</tr>
<tr>
<td><strong>Assumptions</strong></td>
<td>A sample and the population from which it is drawn may contain unobserved subgroups of individuals.</td>
</tr>
<tr>
<td><strong>Strengths</strong></td>
<td>Variables can be experienced and relate differently to one another and depending on how they combine with other variables.</td>
</tr>
<tr>
<td><strong>Application to commitment research</strong></td>
<td>Treats individuals in a holistic fashion.</td>
</tr>
<tr>
<td><strong>Common analytic techniques</strong></td>
<td>Test hypotheses concerning the ways in which components and foci of commitment are experienced and relate to other variables across subgroups.</td>
</tr>
</tbody>
</table>

4 This information was not reported in the article but was obtained from the authors.
CC, and Tsoumbris and Xenikou measured AC, NC, and CC to both the organization and occupation, so their findings differed slightly. Importantly, however, they identified multiple subgroups within their samples.

Comparison of the profile groups identified in these cluster analytic studies also yielded results largely consistent with Gellaty et al.'s (2006) context hypothesis. For example, the lowest levels of turnover intention tended to be found for employees with fully-committed, AC/NC-dominant, and AC-dominant profiles — the highest levels were found among the uncommitted, CC-dominant, and CC/NC-dominant profile groups (Somers, 2009; Wasti, 2005). Somers (2010) compared profile groups in terms of actual turnover and found the lowest rates in the fully-committed and AC/NC-dominant groups, although only the former differed significantly from the other groups. A similar pattern of findings was obtained in comparisons involving other outcomes, including job performance, OCB, and employee well-being. For example, Wasti (2005) found that OCB was greatest among employees with a fully-committed profile, followed by those with AC-dominant and AC/NC-dominant profiles. She also found that employees with AC-dominant and AC/NC-dominant profiles experienced less job stress than those with a CC-dominant profile. In a second study, she found that fully-committed employees experienced less stress than all other profile groups. Somers (2009) found that US nurses with an AC/NC-dominant profile were among the lowest of any profile group in job stress, and the lowest in carry-over stress (i.e., work-related stress that persists outside the workplace).

Finally, some recent studies used an even more advanced analytic procedure known as latent profile analysis (LPA; see Section 5 for more details). Stanley, Vandenberg, Vandenbergh and Bentin (2009) conducted LPA on data obtained from a sample of alumni from a Belgian university. They determined that a six-cluster model provided optimal fit to the data. Although they divided CC into two facets -- high sacrifice and low alternatives -- identified in previous research (e.g., McGee & Ford, 1987), the clusters were similar to those obtained in previous research. They labeled the clusters not committed (low scores on all four components), committed (high scores on all four components), AC/NC-dominant (high scores on AC and NC), continuance-dominant (high scores on the two facets of CC), moderately committed (moderate scores on all four components), and AC-dominant (high scores on AC). Meyer, Stanley, and Parfyonova (2012) also found that a six-cluster model provided the optimal fit for a sample of employees in three Canadian human service organizations. The six clusters included fully-committed, uncommitted, AC/NC-dominant, and CC-dominant profile groups, along with two groups with low- and high-moderate scores on all three components.

In follow-up subgroup comparisons, Stanley, Vandenberg, Vandenbergh, and Bentin (in preparation) found that turnover intention was lowest among the AC/NC-dominant and fully committed profile groups, and highest among the uncommitted group, followed by the continuance-committed group. The pattern of findings was similar for actual turnover with one interesting exception — the continuance-committed group had the lowest probability of leaving. This suggests that current conditions might have prevented members of this group from acting on their intentions. Meyer et al. (2012) compared the profile groups in terms of motivation (i.e., need satisfaction; autonomous regulation), well-being, and peer-rated in-role performance and OCB. The pattern of findings was very similar across the motivation and well-being measures. Employees with AC/NC-dominant and fully-committed profiles reported the highest levels of need satisfaction, autonomous regulation, work engagement, and positive affect, and the lowest levels of negative affect and health complaints. For employees with uncommitted and CC-dominant profiles, the pattern was reversed. Although no differences were found for in-role performance, peer ratings of OCB were significantly higher in the AC/NC-dominant profile group than in any other group besides the fully committed. Together, the results of the cluster-analytic and LPA studies confirm that there are naturally occurring subgroups within the working population. Thus, the homogeneity assumption underlying variable-centered analyses appears not to hold. With the exception of the NC-dominant profile, the profile groups identified in these studies generally reflect a subset of those discussed by Meyer and Herscovitch (2001). Perhaps not surprisingly, most studies also found one or more subgroups with moderate scores on the three components. Importantly, it was also found that employees with differing combinations of AC, NC, and CC experience their overall commitment quite differently, and this is reflected in their behavior and sense of well-being.

4.2. Multiple foci of commitment

As noted earlier, most variable-centered research found that commitments to work-relevant foci correlate positively, albeit modestly (Cooper-Hakim & Viswesvaran, 2005), leaving open the possibility that commitments can be compatible for some employees but in conflict for others. That is, there may be subgroups in the population with varying combinations of strong and weak commitments to different foci — an issue that can be addressed using a person-centered approach.

As was the case for research pertaining to components of commitment, researchers have used median-splits (Carson, Carson, Roe, Birkenmeier, & Phillips, 1999; Somers & Birnbaum, 2000) cluster analyses (Becker & Billings, 1993; Swailes, 2004) and LPA (Morin et al., 2011) to create or identify profile groups involving multiple foci of commitment. Once identified, the groups were then compared on variables of interest. For example, Carson et al., and Somers and Birnbaum used a median split approach to create four groups with differing patterns of organizational and career commitment. Both found the most favorable outcomes (e.g., work attitudes; intention to remain in the job and career) among the dually committed, and the least favorable among the uncommitted. Carson et al. also found that job withdrawal intentions were lower for “organizationists” (i.e., strong organizational commitment and weak occupational commitment) than for “careerists,” (i.e., strong occupational commitment and weaker organizational commitment) whereas the reverse was true for career withdrawal intentions.

Becker and Billings (1993) measured commitment to four foci (organization, top management, supervisor, and work group) and identified four distinct profile groups using cluster analysis. The uncommitted group demonstrated little commitment of any kind, whereas the committed group had strong commitment to all four foci. In addition to this largely quantitative distinction, the two remaining groups were qualitatively different. The locally committed group was more committed to their supervisor and
work group than to the organization and top management, whereas the globally committed group showed the opposite pattern. The committed group tended to have the most favorable outcomes overall, and the uncommitted group had the least favorable outcomes. Moreover, the locally committed group tended to be more satisfied with the local conditions, and engaged in more local prosocial behavior than did the globally committed group. Swailes (2004) identified the same set of profile groups in a sample of public accountants. In a second sample of private-sector accountants, the local and global profiles were replaced by supervisor-only and workgroup-only profile groups. When the groups were compared on measures of achievement and innovation, no differences were obtained for the private-sector accountants, but the dually-committed public accountants scored higher than all other groups on achievement and higher than the uncommitted and globally committed groups on innovation.

In a more recent and comprehensive person-centered study of commitment foci, Morin et al. (2011) applied LPA and factor mixture analyses (Muthén, 2002; Vermunt & Magidson, 2002) to ratings of AC to seven foci (organization, workgroup, supervisor, customer, job, work, and career). They determined that a model including five latent profile groups provided a reasonable fit to the data. The profile groups included employees who were (a) highly committed to all foci, (b) weakly committed to all foci, (c) highly committed to their supervisor and moderately committed to other foci, (d) committed to their career but weakly committed to all other foci, and (e) committed to their proximal work environment (i.e., organization, workgroup, customers). Not surprisingly, the highly committed and weakly committed groups differed in their perceptions of justice, relationships, and satisfaction, and the former were more likely to intend to stay and reported higher levels of performance and OCB than the latter. However, the qualitatively differentiated groups demonstrated more distinctive patterns of antecedents and outcomes. For example, those employees committed to their proximal work environment tended to have longer tenure and reported less positive relationships with their supervisor. They also had relatively low scores on OCB directed at the supervisor and intention to remain. In contrast, those employees who were more committed to their supervisors than other employees were distinguished by their relatively high ratings of the relationship with their supervisors and by above-average ratings on in-role performance. Finally, the career committed group reported moderately poor interpersonal relationships, justice, and satisfaction and indicated a fairly strong intention to leave.

In summary, person-centered research pertaining to multiple foci of commitment clearly indicates that, within a sample of employees, there are likely to be subgroups with different patterns of commitment to work-relevant foci. The findings also provide good reason to believe that these subgroups will differ in terms of personal characteristics, situational experiences, and behavioral tendencies. It is too early to determine whether there are any specific subgroups that are likely to be identifiable across studies, although the generally uncommitted and committed groups appear to emerge consistently, as do variations on the local vs. cosmopolitan distinction identified by Gouldner (1957). What seems apparent, however, is that the combinations and their implications are potentially complex and that a person-centered approach is well suited to addressing these complexities (Morin et al., 2011; Vandenberg & Stanley, 2009). However, users must be aware of its limitations as well as its strength, as with any other method or analysis. Therefore, we turn now to a critical evaluation of the person-centered approach in general, and of specific data analytic strategies in particular.

5. Critical evaluation of person-centered approaches

As noted earlier, person-centered studies have commonly used one of three approaches: midpoint-splits, cluster analysis, and LPA. Each has its advantages and limitations. Besides its simplicity, one of the main advantages of the midpoint-split approach is that the groupings are generally known in advance, making it easier to develop a priori hypotheses. However, there are several important limitations associated with midpoint splits (Butts & Ng, 2009; Maxwell & Delaney, 1993). First, mean and median scores may vary across samples, thereby making it difficult to compare groups and findings across studies. A midpoint split using important limitations associated with midpoint splits (Butts & Ng, 2009; Maxwell & Delaney, 1993). First, mean and median scores may vary across samples, thereby making it difficult to compare groups and findings across studies. A midpoint split using established norms might help to address this concern, but such norms have only recently become available for the TCM measures (Morin et al., 2011). For example, the NC-dominant profile group created by Gellatly et al. (2006) and Markovits et al. (2007), has yet to be identified in studies using cluster analysis or LPA.

Cluster analysis (Tryon, 1939) is often considered a more flexible alternative compared to midpoint splits. Cluster analysis identifies groups of individuals showing similar values on selected variables. The number of clusters is determined by minimizing within-cluster variation and maximizing between-cluster variation (Aldenderfer & Blashfield, 1984; Everitt, Landau, & Leese, 2001; Kaufman & Rousseeuw, 2005). Some statistics are available to guide the decision regarding the number of clusters (e.g., pseudo F-statistic; Calinski & Harabasz, 1974), but these statistics are not useful for all kinds of data (Milligan & Cooper, 1985). As a result, the selection of a final model is often quite subjective. Finally, cluster analysis relies on rigid assumptions of conditional independence and class-invariant variances (Morin et al., 2011), and is often biased toward producing clusters of equal size. For these reasons, researchers are beginning to focus on model-based techniques such as LPA. Such techniques offer several advantages, including the availability of more rigorous empirical criteria for determining the number of clusters (or classes).

In its most straightforward applications, LPA has the same basic objectives as cluster analysis. Although it is more versatile than other person-centered analyses, including cluster analysis, it is also more complex. Indeed, a full and accurate description of the technical issues involved in LPA goes beyond our current objectives. Therefore, we provide only a basic overview of the strengths and limitations of LPA here and refer interested readers to Vandenberg and Stanley (2009) for a more detailed discussion of the analytic.
procedures as they apply to the investigation of commitment (for more general discussion, see Magidson & Vermunt, 2002, 2004; McLachlan & Peel, 2000; Muthén & Muthén, 2000; Vermunt & Magidson, 2002).

As its name implies, LPA utilizes a latent variable to specify group membership. The standardized factor loadings of measured variables on this latent variable can be examined in order to determine which of these variables influence class membership. For purposes of this discussion, we will assume that the three commitment components (AC, NC, CC) are the variables of interest. For each component, a significant loading on the latent variable is taken to indicate that it contributes to the determination of class membership. The intercepts (means) of the indicators (components) can then be examined to determine whether they differ significantly across the profile groups. This helps to establish whether the groups are quantitatively and/or qualitatively different from one another. Once profile groups have been identified, they can be compared with regard to other variables hypothesized as antecedents, correlates, or consequences of profile membership. In more complex versions of the procedure, these antecedent, correlate, or consequence variables can be incorporated directly into the model as a means of testing hypotheses (Muthén, 2002; Vandenberg & Stanley, 2009).

LPA has several advantages over traditional cluster analysis, including the fact that it (a) is model-based and allows for control or estimation of parameters pertaining to within- and between-group variance and co-variance (Pastor et al., 2007), (b) uses rigorous statistical criteria (e.g., bootstrapped likelihood ratio test, Bayesian Information Criterion: Nylund, Asparouhov, & Muthen, 2007) to determine the appropriate number of classes, and (c) can accommodate variables with different scale types without the need for data transformation (Muthén, 2002). However, LPA has its limitations and steps need to be taken to ensure that it is used appropriately. For example, Bauer and Curran (2003, 2004) cautioned that there is a potential for overextraction of classes under conditions of non-normality or non-linearity. LPA is also sensitive to sample size such that larger samples yield more classes than smaller samples (Pastor et al., 2007). Although these concerns can be addressed in part through the use of appropriate fit indices (Muthén, 2003; Nylund et al., 2007), there is still some debate as to the most appropriate indices to use. Finally, there has been concern expressed about the exploratory nature of LPA (Bauer & Curran, 2003, 2004). However, others argue that it is appropriate to use LPA to explore, rather than confirm, groups of employees sharing similar patterns of scores when existing theory cannot fully account for the full range of complementary and/or conflicting effects (Mun, Bates, & Vaschillo, 2010). The results of these exploratory studies can lead to theory development to guide subsequent confirmatory studies (Muthén, 2003).

In sum, a person-centered approach has the potential to provide new information about commitment that cannot be obtained using a variable-centered approach. It serves as a viable alternative to the variable-centered approach under conditions where a sample, and the population from which it was drawn, is not homogeneous. However, like variable-centered analytic strategies, person-centered strategies have strengths and limitations and must be used judiciously. Of the strategies available, LPA is the most powerful, albeit also the most complex. We strongly encourage continued use of LPA and related procedures in future research (see below). However, researchers must be aware of its limitations and take steps to minimize their impact (e.g., verifying that assumptions are met; using a confirmatory approach where possible; cross-validating results with multiple samples.)

6. Future directions for person-centered research

Person-centered commitment research is in its infancy and there is a need for more research to assess the generalizability of the findings already obtained. For example, we need more research to identify the component profiles that are most common within the working population. As this set emerges in exploratory studies, it can be tested using confirmatory analyses. There are also many new questions that need to be addressed, particularly with regard to the combinations of commitments to multiple foci. As is the case with variable-centered research, many of these questions are likely to involve dynamic relations among variables (Vandenberg & Stanley, 2009). To date, the small body of person-centered commitment research has been cross-sectional. New developments in analytic strategies, including latent class growth analysis (LCGA), and latent transition analyses (LTA) now allow researchers to address more dynamic issues using longitudinal data. In what follows, we discuss some of the implications of taking a person-centered approach for theory development and research.

Perhaps because the variable-centered perspective has been so dominant in the organizational sciences, including the commitment literature, there is a scarcity of well-articulated theory to guide research from a person-centered perspective. Meyer and Herscovitch (2001) offered a set of hypotheses about how individuals with different component profiles might behave with regard to the target of their commitment, but did not elaborate on the nature of the mindset characterizing these profiles. Research conducted to test their propositions helped to provide some clarity on this issue. For example, Gellatly et al. (2006) observed that employees with strong NC behaved differently depending on the relative strength of AC and CC. This raised the possibility that each component might be experienced differently depending on the context created by the other components. Meyer et al. (2012) found supporting evidence in the case of CC; strong CC was associated with higher levels of performance and well-being when combined with strong AC and NC than when AC and NC were weak. They also tested and provided some support for recent theory pertaining to the motivational processes associated with varying profiles (cf. Meyer & Maltin, 2010; Meyer & Parfonova, 2010). These findings suggest that there may be very fundamental differences across subgroups, including how they interpret and respond to items on commitment measures. For example, an individual responding to the item “It would be costly for me to leave my organization right now” might focus on the fact that he/she is trapped by economic conditions when AC is low. However, when AC is high, perceived cost might be experienced as the potential loss of enjoyable work experiences. While this poses a problem for variable-centered research (with its assumption of measurement equivalence), it serves as the basis for the subgroup differences essential for person-centered research.
Although the foregoing provides an important start, there is a need for continued development of theory pertaining to the mindset of employees who experience varying combinations of commitment components described within the TCM or other multidimensional models. Theory pertaining to combinations of commitments to multiple foci is also in need of further development. One of the limitations in this domain is the wide variety of work-relevant targets of commitment. As we noted above, most attention to date has focused on dual commitments such as the organization and union, or the organization and profession. However, it is becoming increasingly clear that employee behavior can be influenced by commitments to many different targets (e.g., unit, team, supervisor, union, customer, family). Therefore, more attention needs to be given to understanding the nature and consequences of varying combinations of these commitments. Research might start with questions pertaining to the existence of subgroups within a population demonstrating compatibility and conflict among commitments. For example, if LPA studies of consequences of varying combinations of these commitments. Research might start with questions pertaining to the existence of subgroups within a population demonstrating compatibility and conflict among commitments. For example, if LPA studies of organizational and occupational commitment yield only clusters in which these commitments are at similar levels (e.g., high–high and low–low), it suggests that they are generally compatible. However, if there is a mix of profiles, some with similar levels and others with high scores on one and low scores on the other, it suggests that there is compatibility for some subgroups but conflict for others. Once the most common subgroups are identified, research can progress to comparison of these subgroups with regard to antecedents and outcomes. The same systematic procedures can be applied to other combinations, perhaps also including multiple components. Indeed, the true value of the person-centered approach becomes most apparent when the researchers are interested in configurations within a complex system of variables.

Another important consideration for the future of person-centered research is the need to move beyond cross-sectional designs. Arguably the most interesting questions regarding commitment in the modern world of work involve dynamic processes (Ployhart & Vandenberg, 2010). As has been the case in variable-centered research, recent developments in person-centered analytic procedures now make it possible for researchers to get closer to addressing these dynamic processes. We focus here on two such developments.

In cases where the researcher is interested in changes in profile group membership across time, perhaps as a function of early socialization experiences or an organizational change initiative, latent transition analysis (LTA) can be a useful strategy. As the name implies, this model estimates the likelihood of being in a current profile group based on the probability of being in another group at an earlier time. For example, in one recent study, Kam, Meyer, & Topolnytsky, (2011) identified a set of profile groups based on their scores on AC, NC, and CC prior to and following a large-scale organizational change. They were then able to determine the rate of movement between groups over time as the change unfolded, and to relate the probability of change to employees' perceptions of trust in management. It would also be possible in such a study to link the change to outcomes of interest.

When multiple waves of data (i.e., three or more) are available, an even more powerful tool for examining dynamic processes from a person-centered perspective is latent profile growth modeling (LPGM). LPGM is an extension of the somewhat more widely understood LGM procedure mentioned earlier. It is beyond our objectives here to detail either LGM or LPGM. The interested reader should consult Ployhart and Vandenberg (2010) for general issues concerning longitudinal designs, and Vandenberg and Stanley (2009) for an example of LPGM within the context of commitment. Both sources also provide numerous references that may be consulted for even more detail.

Like LGM, LPGM provides estimates of the initial status (i.e., mean at Time 1) and rate of change for a set of variables. In addition, however, LPGM identifies groups of individuals who are similar with respect to their change trajectories. These groups can then be compared with regard to their initial status and change trajectories on other variables (e.g., turnover intentions). For example, in an analysis involving AC, NC, and CC, several profiles could emerge. These include the ones where the individuals are increasing, decreasing, or stable across all three components. However, the more interesting ones from a theory-testing perspective would be those where the change trajectories are different across components. For instance, such an analysis might identify a profile where the socio-normative components (AC and NC) are increasing (decreasing) and the CC component is low initially and remains flat across time. A crossing profile could also be interesting, such as where AC increases (decreases) across time and CC decreases (increases) during the same time period. It should be noted that the illustrations above are anchored to linear change. Nonlinear change could also be detected where, for example, AC increases or decreases to a certain level but then plateaus and flattens. We could work through a similar example substituting commitment foci (e.g., organization, team, supervisor) instead of components. Indeed, LPGM would be a useful strategy to employ to follow up on Vandenberg and Scarpello’s (1994) longitudinal study of changes in organizational and occupational commitment. Different patterns of change in compatibility and conflict between these two commitments might be detected for various subgroups within a sample.

7. Contributions of the person-centered approach

We conclude by reiterating the argument made by others that taking a person-centered approach has the potential to add new insight into a phenomenon of interest (Marsh et al., 2009; Wang & Hanges, 2011; Zyphur, 2009). Our review of the small but growing body of person-centered research pertaining to multiple components and foci of commitment provided some illustrative examples. For instance, it appears that within samples of employees, whether obtained from single or multiple organizations, it is possible to identify homogeneous subgroups with quantitatively and qualitatively different combinations of AC, NC, and CC. These combinations appear to be experienced differently and have different implications for employee behavior and well-being. The fact that NC and CC are experienced and operate differently across subgroups is particularly important. It helps to explain the inconsistent findings obtained in variable-centered research, and addresses concerns about whether they contribute meaningfully to our understanding of commitment (e.g., Jaros, 1997; Ko, Price, & Mueller, 1997). The results of person-centered studies regarding
commitments to multiple foci also suggest the existence of subpopulations differing in levels of compatibility and conflict. With additional research, it might be possible to identify conditions that can be managed to enhance compatibility and minimize detrimental conflicts. Indeed, as researchers begin to conduct more person-centered research and apply advanced methods and analytic strategies (e.g., LTA; LPGM), it will be possible to develop and test even more sophisticated propositions concerning developments and changes in commitment patterns and their implications for behavior and well-being. This will offer tremendous benefits to theory and the scientific investigation of commitment.

There might also be immediate practical benefits of a person-centered approach. People, including managers, have a natural inclination to think in terms of categories or types of people (Zyphur, 2009). Therefore, an analytic strategy that identifies subgroups of individuals who share patterns of scores on commitment components or foci is arguably more compatible with the information processing tendencies of managers than is one that identifies patterns of relations among variables. For example, it might be easier to explain to managers that employees with a moral imperative profile will outperform those with an indebted obligation profile than it would be to explain that the effects of NC on performance is moderated by the relative strength of AC and CC. The advantage of comparing subgroups to moderated relationships becomes even greater as the number of variables increases (see Morin et al., 2011 for an example involving seven foci of commitment). If it is possible to make complex patterns easier to understand, it could also decrease the likelihood of using simple but inaccurate heuristics (e.g., AC = good; CC = bad).

Admittedly, the level of sophistication required to conduct complex person-centered analyses might exceed the current capabilities of most managers (and the consultants on whom they rely). However, as research accumulates and common profile groups emerge, there may be simple algorithms that can be developed to identify these groups (e.g., fully committed employees are those that exceed pre-established scores on each of the three components of commitment or a set of foci). Research on the TCM has already started to identify a common set of five to seven profiles that emerge quite regularly. A similar number of common profiles might emerge for foci of commitment with additional research.

### 8. Conclusion

A person-centered approach to the study of commitment can be an important complement to the more traditional variable-centered approach. Both have strengths and limitations and must be used appropriately to address the questions to which they are best suited. A person-centered approach is most useful under conditions where the population is heterogeneous and the researcher is interested in understanding how varying combinations of variables are experienced and/or related to important outcomes. A potential added advantage of the person-centered approach is that it provides results that are more compatible with the way organizational decision-makers process information. Consequently, it could help to ease communication and increase impact.

### References


