

Mind Pad

Canada's student written, edited,
and published psychology newsletter.



Notes d'idées

Le bulletin rédigé, édité et publié par les étudiants
de la Société canadienne de la psychologie.

SUMMER 2020 – ÉTÉ 2020



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Le bulletin rédigé, édité et publié par les étudiants de la Société canadienne de la psychologie.

Mind Pad has two mandated goals:

1. It aims to provide a professional newsletter that is written and reviewed by students of psychology who are affiliates of the Canadian Psychological Association. The content of the newsletter should be of interest to all who are practicing and studying psychology, but the primary audience of the newsletter is students of psychology.
2. It aims to offer studying psychology researchers and writers an opportunity to experience a formal submission process, including submission, review, and resubmission from the points of view of both submitter and reviewer/editor.

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2. Fournir aux étudiants en psychologie l'opportunité de connaître le processus formel de soumission y compris la soumission, la révision, et la resoumission du point de vue d'auteur et d'évaluateur/rédacteur.

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Drawing with Your Eyes: Comparable Memory Benefits for Oculomotor and Manual-motor Drawing

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Abstract

Drawing pictures of to-be-remembered target words leads to better memory than does writing them. In the current study, we sought to better understand the relative contribution of the hand-motor movement component of this drawing benefit. Participants encoded, and later recalled, a set of words in each of three intermixed encoding trial types. For the draw and write trial types, participants drew or wrote out the target word on a tablet computer, respectively. For the eye-draw trial type, participants used purposeful eye movements to ‘draw’ a representation of the target using eye-tracking technology. Participants remembered significantly more words that were drawn and eye-drawn than written at encoding, replicating the drawing effect. However, there was no significant difference between words drawn compared to eye-drawn, signifying that manual and ocular motor movement confer comparable memorial benefits. These findings provide evidence that drawing as an encoding tool is as flexible as it is potent.

Résumé

Le geste de dessiner des mots cibles dont on doit se rappeler favorise davantage la mémoire que l’acte d’écrire ces mots. Dans cette recherche, nous voulions mieux comprendre la contribution relative de la composante liée à «l’acte moteur de la main» dans l’avantage du geste de dessiner. Les participants devaient d’abord encoder une série de mots dans chacune des trois séries types d’encodage mixtes, puis se rappeler ces mots. Pour les séries de type «dessin et écriture», les participants devaient dessiner ou écrire le mot cible sur une tablette électronique. Pour les séries de type «dessin par motricité des yeux», les participants utilisaient la technologie du suivi du regard et se servaient de mouvements oculaires de manière intentionnelle pour «dessiner» et offrir une représentation du mot cible. Les participants se rappelaient beaucoup plus les mots qu’ils avaient dessinés à la main ou avec les yeux que ceux qu’ils avaient écrits au moment de

les encoder, une duplication du geste de dessiner. Cependant, les différences entre les mots dessinés à la main et les mots dessinés à l’œil s’avéraient non significatives, ce qui signifie que l’acte moteur de la main et les mouvements oculaires confèrent des avantages comparables pour ce qui est de la mémoire. Ces résultats démontrent que le dessin en tant qu’outil d’encodage se révèle aussi flexible que puissant.



Past studies have aimed to discover methods by which we can prolong, strengthen, and preserve our sometimes fleeting recollections of the past. Recently, Wammes, Meade, and Fernandes (2016) provided evidence that creating drawings of to-be-remembered information is a particularly effective encoding strategy. They postulated that drawing improves memory by enabling a seamless integration of elaborative semantic, motor, and visual aspects of a memory (see also Wammes, Jonker & Fernandes, *in press*). The purpose of the current study was to determine the importance of manual hand-motor movement in producing the benefit of drawing on subsequent memory. If manual hand-motor movement is indeed an important part of the drawing process, removing it should diminish any subsequent memorial boost. Testing this notion necessitated the development of an entirely new encoding task – eye-drawing – which removed the manual-motor component of drawing while attempting to hold other aspects of the task constant.

The ‘drawing effect’ refers to the reliable finding that creating drawings of to-be-remembered information improves memory (Wammes et al., 2016). This is evident in younger and older adults (Meade, Wammes & Fernandes, 2018), and across many paradigm variants (reduced encoding time, Wammes et al., 2016; different stimuli, Wammes, Meade & Fernandes, 2017; alternate test formats, Wammes, Meade & Fernandes, 2018). Even preparing to draw without actu-

ally drawing improved memory (Wammes, Roberts & Fernandes, 2018). Other groups have shown similar effects in free recall (Paivio & Csapo, 1973), with scenes, nonsense figures (Peynircioğlu, 1989), flags (Blake & Castel, 2019), and educational materials (Van Meter & Garner, 2005). It is clear that drawing is a potent tool for improving memory and learning, but the mechanisms driving this effect remain uncertain.

Aspects of the three components thought to be critical to drawing-related memory benefits have each been studied on their own in great detail. Specifically, the generation (better memory for self-generated relative to provided words; Slamecka & Graf, 1978), enactment (better memory for physically enacted relative to read words; Cohen, 1981), and picture superiority effects (better memory for pictures relative to words; Paivio, 1971) – analogous to elaborative, motor, and pictorial components, respectively – have been studied at length in the field of psychology. Theoretically, drawing requires the interactive use of all three of the aforementioned mnemonic strategies simultaneously. That is, while engaged in drawing, motor systems are used to move the hand, generative processes are required to think about how to draw the item, and visual/pictorial feedback is provided by the drawing itself.

In the current experiment, we aimed to measure the relative influence of the hand-motor component of drawing-related memory benefits. Eye-tracking technology was employed to allow participants to create drawings using one's eye movements instead of hand movements. This encoding strategy was designed to incorporate only two of the hypothesized factors contributing to the drawing effect (pictorial and elaborative), while selectively removing the third (manual-motor). The idea being that as components thought to be important to the drawing effect are selectively removed, the memorial benefit that follows should be attenuated. Therefore, our first prediction was that participants would better remember target words that were encoded using 'eye-drawing' relative to 'writing', but that eye-drawing would not reach performance levels as high as 'drawing'. Memory for eye-drawn items may, however, still approach the levels of performance observed in hand-drawing because of additional oculomotor processing, and potentially increased novelty or distinctiveness of the task. Our second prediction was that we would replicate the observed benefit that drawing affords memory: words that were drawn compared to written would be better remembered (for a review, see Fernandes, Wammes, & Meade, 2018).

Although we had no *a priori* predictions about the number of saccades made during eye-drawing, we conducted an exploratory analysis to determine if

they had any relation to subsequent memory for a given trial. The prediction is that, insofar as motor movement in general is critical to the drawing effect, those participants who engaged in more eye movements (as quantified by number of saccades) should exhibit larger benefits of eye-drawing.

Method

Participants

Based on sample sizes used in previous drawing effect work, we set a minimum recruitment goal of 30 participants (e.g., Wammes et al., 2016, Experiments 1 and 4). In the end, thirty-six undergraduate students (27 female) were recruited through the University of Waterloo's undergraduate pool for psychology course credit. Participants ranged in age from 18 to 24 years ($M = 19.75$, $SD = 1.73$), and all self-reported having learned English before the age of nine, as well as having normal (non-corrected) vision.

Materials

We selected 36 concrete, high frequency nouns (log₁₀ transformed CELEX; $M = 3.14$, $SD = 1.30$), of average length (characters; $M = 5.33$, $SD = 1.95$), and having low object visual complexity (estimated by the file size of digitized referents, measured in KB; $M = 14,393.30$, $SD = 10,265.62$; Szekely et al., 2004) from the International Picture Naming Project (IPNP). The experiment was designed using custom scripts embedded within proprietary Experiment Builder software, and utilized an EyeLink 1000 unit for eye-tracking (SR Research Ltd., Ottawa, ON). Hand-drawing and writing trials were performed using an Acer 10.1" touchscreen tablet screen with a stylus.

Procedure

Following informed consent, participants first completed a task to determine eye dominance to facilitate eye-tracking with the infrared (IR) camera. For all tasks, the participants' heads remained in a chin rest to maintain position facing the eye-tracking unit.

During a practice phase, six words (two of each encoding trial type) appeared in random order, preceded by one of three encoding instructions: draw, write, or eye-draw. Participants were given 15s to complete the task, for each word. In the draw and eye-draw trials, participants were instructed to continue drawing until time was up, adding detail if they finished early. For the write trials, participants were asked to write out the word repeatedly until time ran out.

Following practice, participants were shown 30 target words, one at a time, in a randomly intermixed order (10 words randomly chosen per trial-type). These appeared in five blocks of six words, with a

mandatory 15s rest period and re-calibration of the eye-tracker between each block. Instructions and timings were identical to the practice phase.

Following this encoding phase, participants completed a two-minute tone classification task in which they were told to identify whether a presented tone was low (372 Hz), medium (498 Hz), or high (624 Hz) using a button-press on a keyboard. The purpose of this task was simply to introduce a filled retention interval prior to the memory test, allowing learned material to transition into long-term memory. Participants were then given two minutes to freely recall aloud as many words as they could remember from the study phase.

Results

Part 1: Overall Recall Performance

Before any formal statistical analyses began, we sought to first identify and remove univariate outliers ($> 3 SD$), however none were detected. Therefore we proceeded by conducting a repeated-measures ANOVA with trial type (draw, eye-draw, and write) as a within-participant factor, and proportion of words recalled as the dependent variable. Assumptions regarding normality and sphericity were met and therefore no corrections were implemented. There was a significant main effect of trial type, $F(2, 70) = 17.09$, $MSE = 1.90$, $p < .001$, $\eta_p^2 = .33$. Simple effect contrasts revealed that recall was higher for words drawn ($M = .41$, $SD = .17$) relative to written ($M = .25$, $SD = .17$) at encoding, $F(1, 35) = 22.27$, $MSE = 3.91$, $p < .001$, $\eta_p^2 = .39$, and higher for words eye-drawn ($M = .43$, $SD = .14$) than written, $F(1, 35) = 34.86$, $MSE = 3.06$, $p < .001$, $\eta_p^2 = .50$. There was no difference in recall between words drawn and eye-drawn at encoding, $F(1, 35) = 0.23$, $MSE = 4.43$, $p = .64$, $\eta_p^2 = .01$ (see Figure 1 for means).

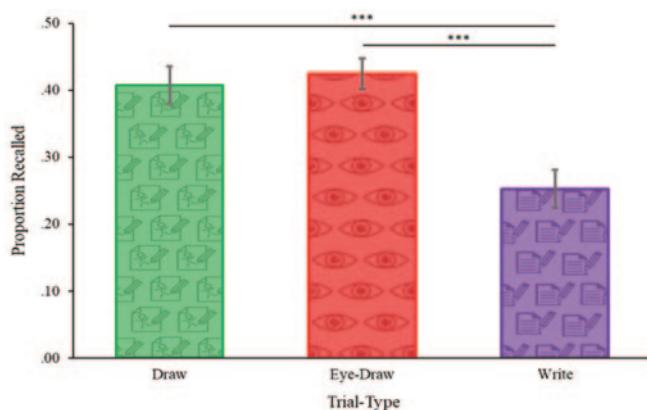


Figure 1. Proportion of target words recalled, following draw, eye-draw, and write encoding instructions. Error bars represent the standard error of the mean. *** = $p < .001$.

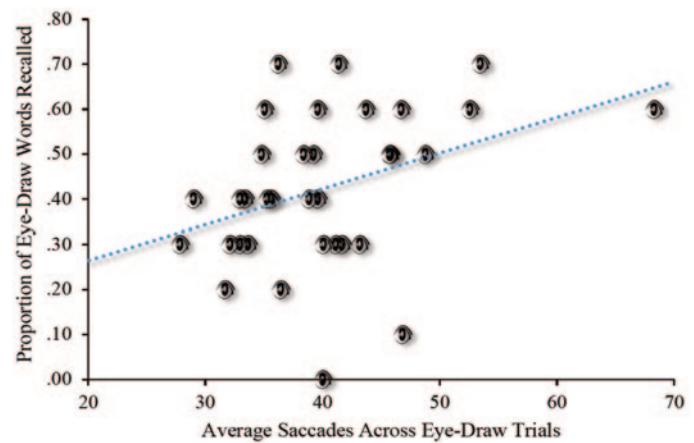


Figure 2. Proportion of words recalled that were eye-drawn during encoding was positively correlated with number of saccades on eye-draw trials. Trendline is a linear fit.

Part 2: Exploratory Saccade Analysis

Saccade data from two participants were not available due to technical errors with the eye-tracking unit. The average number of saccades participants made during eye-drawing trials was found to have a positive correlation with the proportion of eye-drawn words recalled, $r(34) = .37$, $p = .03$. After removing an outlier based on number of saccades ($> 3 SD$), the pattern of results remained largely the same, though the correlation between number of saccades and proportion of eye-drawn words recalled was now only marginal, $r(33) = .34$, $p = .06$.

Discussion

In this study, we sought to gain a better understanding of the relative contribution of multiple encoding factors on subsequent memory. Participants remembered significantly more words that were drawn and eye-drawn than written at encoding, suggesting that writing is a less effective encoding strategy than the former two. There was no significant difference in memory performance between words that were drawn compared to those eye-drawn, suggesting that comparable memorial benefits are conferred by manual-motor and by the unique implementation of oculomotor movement necessary for the eye-drawing task. Our results replicate the drawing effect (Fernandes et al., 2018; Meade et al., 2018; Wammes et al., 2016, 2017, 2018). In addition, this study is the first to show that eye-drawing at encoding is an effective encoding technique that provides a significant memorial boost relative to writing.

Our initial prediction was that words drawn at encoding would have led to the highest level of recall, followed by eye-drawing, and then writing, because each on the surface invoked three (elaborative, motor,

and pictorial), two (elaborative and pictorial), and one (motor) of the critical component(s), respectively. Our results suggest that while the beneficial effects of hand-drawing may be driven in part by the contribution of manual-motor movement, eye-drawing is capable of producing similar memory performance. However, one important limitation is that the eye-drawing task may differ from hand-drawing in more than just the type of movement required. For example, it likely differs in its relative difficulty (Bjork, 1994) and novelty (Kishiyama & Yonelinas, 2003; Tulving & Kroll, 1995) relative to hand-drawing, both of which are known to contribute to memory performance (see Appendix A for trial examples).

The memorial benefit gained by eye-drawing could also be due to the addition of a unique oculomotor contribution that compensates for the missing manual-motor process typically included in normal hand-drawing. For example, research has shown that the number of eye movements (i.e., saccades) one makes at encoding is positively correlated with their subsequent recognition memory for images (Loftus, 1972), as well as visuo-spatial working memory performance (Pearson, Ball & Smith, 2014). Taken together, the foregoing studies indicate a tight coupling between oculomotor and memory systems, which may play a critical role in determining what is later remembered. Consistent with these general ideas, when eye movements at encoding were explicitly linked to to-be-remembered targets in the current work, memory performance was substantially better than our writing baseline condition. Moreover, while the correlation between saccades and recall for eye-drawn words was only marginal, the trend towards a positive association suggests that eye-drawing could be a useful task for pursuing the links between eye movements and memory. Future work should explore the degree to which eye movements alone can enhance memory retention.

Conclusion

The current study was the first to show that a new novel task of 'eye-drawing', during encoding, was able to boost memory relative to writing, and was even on par with drawing, a powerful and robust active encoding task. We have shown that oculomotor movements used to depict the to-be-remembered items are as effective as using one's hands to draw such items. Therefore, the immediate implications of the current study stem from the promising resiliency that drawing seems to offer as an everyday mnemonic strategy. While the current results suggest that other 'types' of drawing can result in similar memory benefits as normal hand drawing, further studies are required to identify under-

lying mechanisms that can explain why drawing is such an effective technique to improve memory. Given the current demonstration of the robustness and flexibility of drawing-related memorial benefits, future research in this domain appears fruitful.



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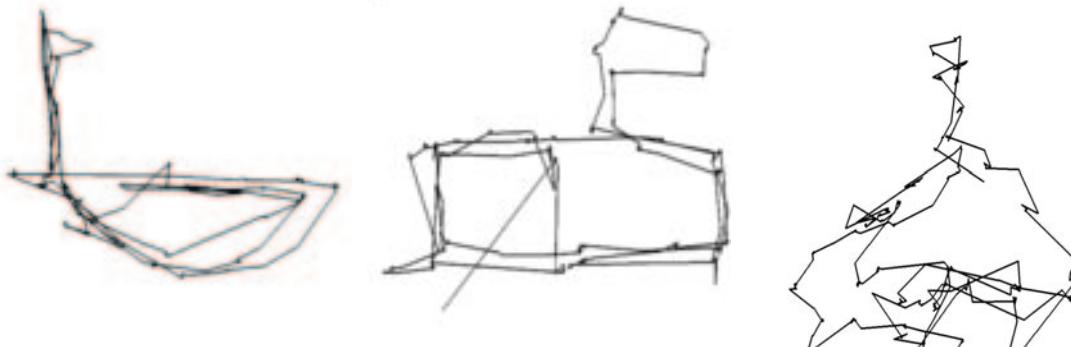
Appendix A.

Samples of hand-drawn, eye-drawn, and written productions by participants for the target word ‘boat’.

Draw



Eye-Draw



Write

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Le corps et l'œuvre : regards croisés entre psychologie et histoire de l'art

Audrey Doualot, UQAM, MSc, PhD student

Résumé

Depuis fin 2018, les praticiens membres de l'Association des Médecins Francophones du Canada (MdFC) ont la possibilité de prescrire à leurs patients des visites au musée grâce à une entente conclue avec le Musée des Beaux-Arts de Montréal (MBAM). Le présent article porte un regard croisé entre la psychologie et l'histoire de l'art, discipline considérée comme une extraordinaire école du regard. Il interroge le lien entre le corps et l'œuvre d'art en s'intéressant plus particulièrement aux travaux de sémiotique visuelle menés au Québec dès les années 1980-1990 ainsi qu'à la théorie de la simulation incarnée dans le champ des neurosciences cognitives. Cette réflexion se veut une synthèse originale entre différentes disciplines visant à mieux appréhender la richesse de l'expérience vécue face à l'œuvre d'art dans une perspective tant clinique qu'expérimentale.

Abstract

Since the end of 2018, practicing members of the Association des Médecins Francophones du Canada (MdFC) can now prescribe to their patients visits to the museum through an agreement with the Montreal Museum of Fine Arts (MMFA). This article is a cross-examination between psychology and art history, a discipline considered as an extraordinary school of the eye. It questions the link between the body and the artwork more particularly through visual semiotics studies carried out in Quebec from the years 1980-1990 and the theory of embodied simulation in the field of cognitive neuroscience. This contribution aims at better understanding the richness of the experience in front of the artwork in both a clinical and experimental perspective, providing an original synthesis between different disciplines.



Miser sur le pouvoir curatif de l'œuvre d'art

L'entente conclue entre le Musée des Beaux-Arts de Montréal (MBAM) et l'Association des Médecins Francophones du Canada (MdFC) fin 2018 permettant à des patients de se faire prescrire des visites au musée,

interroge la nature du lien entre l'œuvre d'art et celle ou celui qui la côtoie. Cette initiative, tout comme celle de la Fondation de l'art pour la guérison qui fait entrer les œuvres d'art dans les hôpitaux et les centres de soin, font le pari du pouvoir curatif de l'œuvre d'art.

[...] l'œuvre d'art est au centre de l'expérience. Elle n'est pas un prétexte. Elle est le cœur, elle est la raison-même de cette action. [...] nous allons avoir des prescriptions muséales qui seront données par des médecins à leurs patients. [...] je considère que le rapport à la culture est aussi important pour notre bien-être émotionnel, pour notre être sensible, notre être animal, biologique que le rapport cognitif, intellectuel, culturel si je puis dire à l'œuvre. (Bondil, 2018)

Ici nous souhaitons questionner ces initiatives à l'aune d'une réflexion croisée entre l'histoire de l'art et la psychologie – en particulier les neurosciences cognitives – et proposer de nouvelles perspectives pour la pratique clinique et la recherche en psychologie. L'œuvre étant un élément clé du dispositif, nous nous intéresserons dans un premier temps aux outils et méthodes développés au fil du temps par l'histoire de l'art – discipline considérée comme une extraordinaire école du regard – afin d'appréhender la façon dont l'œuvre d'art est reçue par celles et ceux qui l'observent. Les travaux de sémiotique visuelle menés au Québec dès les années 1980-1990 portant sur la forme et la matérialité de l'œuvre offriront en particulier une source de réflexion féconde visant à appréhender les éléments actifs de l'œuvre d'art. Nous verrons dans un deuxième temps comment les neurosciences cognitives permettent de considérer la complexité de l'acte de regarder et l'engagement du corps en nous intéressant aux travaux menés dans le cadre de la théorie de la *simulation incarnée* (Gallese, 2005 ; Gallese & Freedberg, 2007 ; Freedberg & Gallese, 2007 ; Gallese & Sinigaglia, 2011). Finalement, nous suggérerons quelques voies d'investigation visant à enrichir tant la pratique clinique que la recherche en psychologie.

Penser l'engagement du corps face à l'œuvre avec les approches sémiotiques de l'œuvre d'art

Pendant longtemps, la méthodologie dominante en histoire de l'art, basée sur le modèle d'analyse iconologique d'Erwin Panofsky¹ (Panofsky, 1939/1967), a consisté à analyser intellectuellement l'œuvre d'art en cherchant à mettre à jour un sens caché dont elle serait porteuse par le recours à des textes littéraires et autres références externes à l'œuvre. Ce modèle qui s'inscrit dans un *rapport intellectuel, culturel* à l'œuvre s'est largement répandu et a fait ses preuves comme outil d'analyse en histoire de l'art. L'avènement de nouvelles formes d'art telles que l'art abstrait au début du XXème siècle et l'art de performance un peu plus tard, a cependant mis en évidence ses limites (Lupien, 2019). Comment en effet lire ces œuvres caractérisées par l'absence de représentation manifeste d'une réalité extérieure ? Comment comprendre ce que vit le spectateur face à l'œuvre ?

Des historiens de l'art se sont alors tournés vers la sémiotique, approche qui, ayant pour objet l'étude des signes et de leur signification, permet de comprendre comment différents registres de signes contribuent à l'édification du sens.

Un signe a une matérialité que l'on perçoit avec l'un ou plusieurs de nos sens. On peut le voir (un objet, une couleur, un geste), l'entendre (langage articulé, cri, musique, bruit), le sentir (odeurs diverses : parfum, fumée), le toucher, ou encore le goûter. Cette chose que l'on perçoit tient lieu de quelque chose d'autre : c'est la particularité essentielle du signe : être là, présent, pour désigner autre chose, d'absent, concret ou abstrait. (Joly, 2015, p.29)

Au Québec, on doit à Fernande Saint-Martin, dans *Sémiologie du langage visuel* (1987), une approche qui se distingue des différents travaux théoriques de sémiotique proposés dans la seconde moitié du XXe siècle. Elle proposa une syntaxe des éléments plastiques que sont les couleurs, textures, lignes, formats, vectorialités des lignes et des formes. Accordant une place essentielle à la dimension spatiale et perceptive de l'œuvre, elle posa les bases d'une nouvelle façon de

¹ Ce modèle suppose une signification unique de l'œuvre et le tableau y est vu comme un ensemble de signes picturaux qu'il s'agit de convertir en signes verbaux. La signification est ainsi de nature linguistique et l'acte de réception, un acte de décodage du sens encodé par l'artiste érudit. L'analyse de l'image, selon ce modèle axé sur l'interprétation iconologique de l'œuvre, préconise de faire des liens profonds entre la scène représentée et des textes littéraires extérieurs à l'œuvre (par exemple des textes de nature philosophique, historique, théologique, mythologique, etc.).

considérer le contenu de l'œuvre – que celle-ci soit figurative ou abstraite –, à partir de la perception de ses qualités sensibles.

La thèse de doctorat en sémiotique visuelle de Jocelyne Lupien, professeure au département d'histoire de l'art de l'UQAM, soutenue en 1996, développa cette réflexion sur le rôle de la matérialité de l'œuvre dans l'expérience esthétique, en proposant une synthèse originale entre histoire de l'art, sémiotique visuelle et sciences cognitives.

Les œuvres d'art nous apprennent beaucoup du monde extérieur où nous évoluons, ainsi que du monde intérieur qui nous habite. Par voie sensorielle, cognitive et affective, les tableaux, les sculptures, les installations nous décrivent l'univers *autrement* que ne le font la pensée logique et les sciences exactes et, souvent, l'art nous fait mieux comprendre le chaos et la complexité de nos vies. (Lupien, 2004, p.15)

Ses travaux questionnent la dimension polysensorielle de la production et de la réception de l'œuvre d'art et posent l'hypothèse que les œuvres d'art ne s'adressant jamais exclusivement à la vue sollicitent outre les cinq sens traditionnels, les sens proprioceptif et kinesthésique – relatifs à la position et aux déplacements du corps dans l'espace –, ainsi que le sens algique – relatif à la douleur. Elles le font soit directement en engageant le comportement des spectateurs ou indirectement par le recours à la mémoire sensorielle (Lupien, 1996).

Le concept de *style perceptif* de l'œuvre – « la somme des diverses sensations éprouvées (couleurs, textures, mouvements, sonorités) » (Lupien, 2004, p.16) – permet par ailleurs de considérer la façon spécifique dont l'œuvre transmet au spectateur des informations, des connaissances par le véhicule des sens.

Une fois posé que regarder un tableau ou circuler dans une installation mobilise tous les niveaux de la sensibilité et de la mémoire des sujets, il faut considérer les diverses stratégies énonciatives auxquelles l'œuvre a recours, la manière dont elle interpelle qualitativement et intensément les sensorialités. Ces manières sensibles, ces stratégies énonciatives, nous les qualifierons de *styles perceptifs*. (Lupien, 2004, p.18)

Penser l'engagement du corps face à l'œuvre avec les neurosciences cognitives

La contribution fondamentale du corps, de ses capacités motrices, des différents sens, des émotions et de la mémoire à la construction de l'objet visuel car-

actérise la complexité de l'acte de regarder mise en lumière par la théorie de la *simulation incarnée* (Gallese, 2005 ; Gallese & Freedberg, 2007 ; Freedberg & Gallese, 2007 ; Gallese & Sinigaglia, 2011 ; Gallese, 2017). S'opposant à la classique division entre perception et action, cette théorie pose l'hypothèse d'un ancrage corporel de la perception où les actions et les émotions d'autrui sont représentées en interne à travers un réseau cérébral impliquant des aires sensori-motrices et des aires associées aux émotions.

Des études relatives à la réception des œuvres d'art montrent ainsi que des œuvres figurant une action réalisée par la main suscite une réponse spécifique du cortex moteur de l'observateur. Par exemple Umiltà et collègues (2012) ont présenté à des participants des toiles blanches lacérées de l'artiste Lucio Fontana, digitalisées à haute résolution. Leurs résultats ont mis en évidence que ces représentations des œuvres de l'artiste entraînaient une modulation du rythme oscillatoire du cortex moteur des participants alors que des images contrôles, graphiquement modifiées, n'induisaient pas de telles modulations. Sbriscia-Fioretti et collègues (2013) ont également rapporté que des œuvres de Franz Kline, caractérisées par de larges coups de pinceau vifs noirs sur fond blanc, conduisent à l'activation d'aires corticales pré-motrices et motrices chez les observateurs de ces œuvres.

Sur le plan clinique, les travaux relatifs à la réception des œuvres d'art menés à partir de l'investigation neuropsychologique de sujets cérébrolésés et de l'observation de sujets sains avec des techniques de neuroimagerie, suggèrent que l'expérience esthétique implique un réseau d'aires cérébrales largement distribuées sur les deux hémisphères. Ce réseau recrute des aires sensori-motrices ainsi que des aires de haut niveau cognitif impliquées notamment dans le jugement d'évaluation et le circuit de la récompense (Nadal & Pearce, 2011).

Nouvelles perspectives pour la pratique clinique et la recherche en psychologie

L'intérêt tant clinique que scientifique pour la compréhension des mécanismes sous-tendant la réception des œuvres d'art, suppose de recourir à des outils permettant de considérer la diversité de formes et de contenus des œuvres. La réflexion croisée proposée ici suggère que l'expérience esthétique relève d'une expérience fondamentalement *polysensorimotrice*. Il apparaît ainsi nécessaire d'envisager des outils qui puissent rendre compte de la façon dont les éléments actifs de l'œuvre tout comme leur articulation génèrent une expérience unique sollicitant le corps de

façon multisensorielle. Un test d'évaluation des attributs de l'art comme l'*Assessemnt of Art Attributes* (AAA) (Chatterjee et al., 2010) qui a été créé afin de pallier l'absence d'un cadre commun de mesure et d'interprétation des œuvres, restreint cependant le corpus d'œuvres au canon occidental sans par ailleurs rendre compte de sa dimension multisensorielle. Consistant à évaluer à l'aide d'une échelle de Likert, un corpus de vingt-quatre œuvres, il considère six attributs dits « formels » – la température des couleurs, la saturation des couleurs, le style des traits, la profondeur, l'équilibre et la complexité de l'œuvre –, et six attributs dits « conceptuels » – le caractère figuratif, abstrait, le degré de réalisme, le caractère animé, symbolique et de degré émotionnel. Les méthodes sémiotiques appliquées à l'art suggèrent d'enrichir de tels outils par la prise en compte du *style perceptif* de l'œuvre et suggèrent de façon concomitante un enrichissement des designs expérimentaux capable de tenir compte de la diversité des œuvres d'art.

Les travaux de sémiotiques traitant de la matérialité de l'œuvre cités ici, et ceux issus de la théorie de la simulation incarnée, invitent par ailleurs à considérer les possibilités thérapeutiques qu'offrent l'observation du mouvement dans l'art (Freedberg & Gallese, 2007). Ils font apparaître que le sens du mouvement (Berthoz, 1997) qui sollicite les différentes modalités sensorielles est engagé chez l'observateur lorsqu'il regarde l'œuvre d'art; que cela soit via le dispositif de présentation de l'œuvre l'invitant à se déplacer ou via les sollicitations sensorielles que l'œuvre véhicule. L'œuvre *Angel*, d'Anish Kapoor (1990), une installation exposée dans une grande salle aux murs blancs et composée de huit grosses pierres d'ardoises peintes d'un liquide bleu produisant un effet poudreux en séchant, illustre ce point de façon remarquable. La sollicitation tactile découlant de la matérialité de l'œuvre est si intense qu'il arrive que des spectateurs succombent à l'interdit conventionnel de toucher (Lupien, 2019). L'observation d'une action motrice étant susceptible de créer des changements du comportement moteur voire de susciter un apprentissage moteur (Ossmy & Mukamel, 2018), une perspective très intéressante est d'envisager comment des œuvres comportant une forte composante de « mouvement » sont susceptibles d'offrir des possibilités thérapeutiques pour des patients présentant des atteintes motrices. Cette réflexion croisée invite finalement à s'interroger sur ce que revêt la présence à l'œuvre (Gumbrecht, 2010) et ce que cela nécessite en termes de conscience de soi, présence à soi. Ce faisant, elle permet d'envisager des interventions nouvelles basées sur le potentiel de l'art comme outil du développement hu-

main. Elle met en lumière le remarquable potentiel d'outils utilisés essentiellement pour l'analyse des œuvres en l'histoire de l'art et interroge plus largement les modalités de l'accessibilité de tels outils à tout un chacun.

Conclusion

La perspective présentée ici, en se nourrissant des champs disciplinaires que sont l'histoire de l'art, la sémiotique visuelle et les neurosciences, interpelle la recherche en psychologie et la pratique clinique à différents niveaux. Tout d'abord, elle souligne le potentiel de l'approche sémiotique à rendre compte d'une façon plus complète de la forme et du contenu des œuvres d'art, indépendamment de canons esthétiques, du caractère figuratif ou abstrait, réaliste ou symbolique. Elle invite à tenir compte de la richesse de l'expérience vécue lors de la perception d'œuvres d'art – notamment par la prise en compte du *style perceptif* des œuvres et du « mouvement » présent dans l'œuvre. Elle propose en cela une voie nouvelle pour mieux cerner le pouvoir curatif de l'art et pose les bases de nouvelles interventions basées sur le potentiel de l'art comme outil du développement humain.

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Science in Practice: The Application of the Scientist-Practitioner Model to Promote Evidence-Based Practice in Clinical Psychology

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Abstract

Psychologists have an ethical and professional responsibility to practice in an evidence-based manner such that they implement the most effective treatments for each client based on the available scientific evidence. Nonetheless, there continues to be a gap between the scientific evidence and actual psychological practice in the field of clinical psychology. The scientist-practitioner (S-P) model of training and practice, which emphasizes the integration of both science and practice, is committed to narrowing this gap. The present review discusses how the adoption of the S-P model among clinical psychologists may in turn promote evidence-based practice (EBP) in this field. In addition, barriers related to the implementation of evidence-based treatments, as well as potential solutions to these barriers, are discussed.

Psychologists have both an ethical and a professional responsibility to practice in an evidence-based manner in order to deliver the most effective services for a particular client based on the available scientific evidence (Dozois et al., 2014; Peterson, 2007). However, despite this responsibility, there continues to be a gap between science and practice (Dozois, 2013). As a result, treatments delivered in research settings tend to be more effective than those delivered in community settings (Weiss et al., 1995, 1999). For example, despite an enormous amount of research (Weisz et al., 2017) and a number of protocols that have been shown to be efficacious for a variety of childhood mental health concerns (Silverman & Hinshaw, 2008), evidence suggests that many youth receiving treatment in community settings do not show improvement (Manteuffel, Stephens, Sondheimer, & Fisher, 2008; Warren, Nelson, Mondragon, Baldwin, & Burlingame, 2010).

The scientist-practitioner (S-P) model, which emphasizes the integration of science and practice, is committed to closing the gap (Jones & Mehr, 2007). Psychologists who adopt a S-P model of practice aim to know and apply the results of the scientific literature when making clinical decisions, thereby engaging in evidence-based practice (EBP). The following review paper will provide an overview on how clinicians can utilize the S-P model to engage in EBP and the barriers that they may face throughout this process. Solutions to overcoming challenges are discussed. Such a discussion is imperative for clinical psychologists as the gap between science and practice remains despite the Canadian Psychological Association identifying the effectiveness of psychological treatments as a key priority (Dozois et al., 2014).

Scientist-Practitioner Model and Evidence-Based Practice

Both a model for training and for practice, the S-P model involves “putting evidence into practice and practice into evidence” (Dozois, 2013, p.1). The S-P model is an EBP framework (Kratochwill & Shernoff, 2004) based on the belief that psychologists should

Résumé

Les psychologues ont la responsabilité professionnelle et éthique d'exercer leur profession selon une pratique fondée sur des données probantes afin de mettre en place un traitement optimal pour chaque client sur la base des preuves scientifiques dont ils disposent. Il n'en demeure pas moins qu'il existe un écart entre les preuves scientifiques et la pratique actuelle de la psychologie dans le domaine de la psychologie clinique. Le modèle de formation et de pratique scientifique-praticien (S-P), lequel met l'accent sur l'intégration de la science et de la pratique, cherche à réduire cet écart. Cet article examine comment l'adoption du modèle S-P chez les psychologues cliniciens pourrait, à son tour, promouvoir une pratique fondée sur les données probantes dans ce domaine. De plus, cet article fait mention des obstacles liés à la mise en place de traitements fondés sur des données probantes et comporte des solutions possibles pour surmonter ces obstacles.



be trained as both researchers and practitioners in order to apply established scientific knowledge in their work with clients and generate novel psychological knowledge to be shared with the field (Jones & Mehr, 2007; Shapiro, 2002). As such, the S-P model calls for clinical psychology to be an applied science (Peterson, 2007; Shapiro, 2002).

A psychologist who embodies the S-P model integrates science and practice to best serve their clients (Jones & Mehr, 2007). In this way, the S-P model is linked to EBP, which is the process of integrating the best available research with clinical expertise to make optimal clinical decisions (APA Presidential Task Force on Evidence-Based Practice, 2006; Dozois, 2013). When no validated methods of treatment are available, the psychologist applies “scientific principles of observation, hypothesis generation and hypothesis testing to the individual patient” (Shapiro, 2002, p.232). A scientific viewpoint allows for an exploration of client responses, behaviours, and sessions that is less biased by emotion or relationship-based elements of psychological practice (Peterson, 2007).

A core competency of the S-P psychologist is accessing and integrating scientific evidence to inform clinical decision-making (Dozois et al., 2014; Shapiro, 2002). The psychologist must evaluate existing studies with preference given to studies with methodologically sound approaches that control biases and threats to validity (Dozois et al., 2014). After recognizing the applied value and limitations of the current literature, psychologists must use the evidence to inform their treatment with specific populations (Dozois et al., 2014; Jones & Mehr, 2007; Peterson, 2007). Treatment manuals and practice guidelines provide an avenue for psychologists to administer evidence-based treatments in a consistent and reliable way while retaining some flexibility to meet the specific needs of the individual client (Dozois et al., 2014; Kratochwill & Shernoff, 2004). Although treatment manuals are not the same as EBP, they can offer a helpful method of providing efficacious interventions in real-world clinical settings (Addis, Wade, & Hatgis, 1999).

In addition to providing evidence-based treatments, a S-P psychologist should individually evaluate the treatment with each client to assess the extent to which expected results are achieved through the evidence-based treatment (Kratochwill & Shernoff, 2004). Monitoring progress and evaluating services throughout treatment allows psychologists to maintain a scientific viewpoint (Dozois et al., 2014). By routinely examining client functioning with psychometrically-sound measures, psychologists are able to make informed treatment decisions that are less impacted by biases (Dozois, 2013; Hunsley, 2015). Data, which

may be obtained through either standardized or individualized measures (Ashworth, Guerra, & Kordowicz, 2019; Trujols, Sola, Iraurgi, Campins, Ribalta, & Duran-Sindreu, 2019), can be used to evaluate the stability of response to treatment and determine when treatment can be successfully and safely terminated (Dozois, 2013). Therefore, progress monitoring is an essential component of EBP.

EBP also requires a commitment to staying abreast of current scientific findings. S-P psychologists must engage in professional development (PD) to remain informed on EBPs (Dozois et al., 2014). Professional practice organizations are being called upon to facilitate evidence-based PD for both graduate students and practitioners (Kratochwill & Shernoff, 2004) and many clinicians have begun to engage in these forms of PD. Within individual practices, teams of professionals that deliver EBP have been formed to support both the daily delivery of evidence-based treatments and to facilitate PD activities (Shapiro, 2002).

Challenges to Evidence Based Practice

Despite the growing recognition of the need for EBP (Dozois et al., 2014), psychologists face a number of barriers when integrating and implementing EBP. Many theories have been used to explore the gap between research and practice within health professions. The most commonly used theory to predict the behaviour of clinicians is Ajzen's (1991) Theory of Planned Behaviour (TPB; Godin, Belanger-Gravel, Eccles, & Grimshaw, 2008). Within the TPB, attitudes, social norms, and perceived behavioural control are considered factors that influence one's intention to engage in a behaviour (Ajzen, 1991).

Attitudes. Negative attitudes towards evidence and research appear to be the largest barrier to the intention to engage in EBP (Dozois, 2013; Tasca, Grenon, Fortin-Langelier, & Chyurlia, 2014). Tasca and colleagues (2014) surveyed 63 clinicians and found attitudes to be the largest contributor to intentions to use EBP as it uniquely accounted for 25 percent of the variance. Such attitudes include beliefs about whether or not using research is beneficial to a clinician's practice. Negative attitudes towards research may stem from a lack of communication between clinicians and researchers resulting in a translational gap that may leave clinicians feeling disconnected from research. A commonly reported concern among clinicians is that findings from highly controlled and internally valid studies may not generalize to real-world practice (Tasca et al., 2014). Consequently, negative attitudes and concerns towards research impede the implementation of the principles of EBP and S-P.

Subjective Norms. The second TPB factor may relate to subjective norms, such as peer expectations. This may include whether or not clinicians perceive that other clinicians believe it is important to use EBP. Tasca and colleagues (2014) determined that subjective norms uniquely accounted for 14 percent of the variance in intention to use EBP. Williams, Glisson, Hemmelgarn, and Green (2017) conducted a randomized controlled trial and were able to increase clinician's adoption of EBP by altering the organizational cultures in such a way that clients' well-being and clinician competence were prioritized.

Practice research networks (PRNs) have been developed as a novel approach to overcoming a perceived disconnect towards research (Dozois, 2013) and establishing subjective norms that promote EBP. PRNs also provide opportunities for PD and knowledge translation regarding EBPs. PRNs are designed to increase collaboration and communication among researchers and practitioners by conducting psychotherapy research in clinical settings (Dozois, 2013; Tasca et al., 2014). PRNs involve clinicians collaborating with researchers to design studies that are both clinically meaningful and scientifically rigorous (Dozois, 2013). Clinicians may actively collaborate with researchers to develop research questions, design study protocols, determine methodologies, and collect data. This collaborative relationship is intended to help reduce negative attitudes and clinician concerns towards the adoption of EBPs. Changes in the attitudes of clinicians can occur once they feel that they have direct input and value in research on psychotherapy. As an equal partner in research, concerns of the generalization and applicability of psychotherapy in real-world settings may diminish (Tasca et al., 2014). When psychologists contribute to applied research, the quality and effectiveness of psychological care is believed to increase (Shapiro, 2002).

Perceived Behavioural Control. The third TPB factor may relate to the resources available to the clinician, including knowledge, opportunities, and self-efficacy. Pagoto and colleagues (2007) surveyed 37 psychologists to better understand the barriers to EBP. Results reflected that, in addition to negative attitudes about EBP, lack of knowledge and logistical difficulties were common barriers in implementing EBP. These barriers included difficulty acquiring materials due to cost as well as the time needed to be trained in and to implement a new practice.

Along with the integration of empirical evidence in practice, progress monitoring is an important element of EBP. Despite progress monitoring being identified

as best practice (Dozois et al., 2014), a barrier to progress monitoring appears to be a general lack of knowledge among psychologists. For example, on a Canadian national survey of 1,668 psychologists only 12 percent of psychologists reported using methods of progress monitoring in their practice and 67.4 percent of psychologists reported being unaware of progress monitoring measures. Therefore, ensuring that psychologists are aware of and have adequate knowledge about EBPs is critical to the uptake of EBP, particularly among those working in private practice who may be more isolated and less likely to learn about EBPs (Ionita & Fitzpatrick, 2014).

When psychologists are knowledgeable of EBP, they may not have the resources available to adopt evidence-based treatments and techniques in their practices (Kratochwill & Shernoff, 2004). Furthermore, when a psychologist aims to engage in EBP through manualized treatments, the use of treatment manuals may not align with the philosophical or theoretical beliefs of the clinician (Kratochwill & Shernoff, 2004). Addis and colleagues (1999) determined that practitioners' most common concerns with manualized treatments include the effects of the manualized treatment on therapeutic rapport, the lack of ability and flexibility to meet clients' individual needs, and the limited credibility and feasibility of manualized treatments (Addis, Wade, & Hatgis, 1999). Modular designs and transdiagnostic therapeutic techniques have recently emerged as EBPs to replace or complement existing manualized treatment approaches. Modular approaches allow for flexibility while maintaining fidelity in evidence-informed treatment. Such approaches to psychotherapy allow for "interventions that retain the content and logic of therapy models but, within a co-design approach, provide an explicit framework for adaptation in real time" (Lyon et al., 2014, p. 5). Modular approaches may address practitioners' concerns about the flexibility of manualized treatments. Conversely, transdiagnostic approaches guided by evidence-based principles are able to overcome challenges with the feasibility of many manualized approaches. These approaches rely on core evidence-based principles of therapeutic change, which makes them more accessible to psychologists who have limited time and resources to acquire the use of multiple manualized treatments based on each diagnosis (Weisz, Bearman, Santucci, & Jensen-Doss, 2017). Both modular and transdiagnostic principle-guided approaches offer promising avenues to add to existing evidence-based manualized treatments while overcoming many of the existing challenges of manualized approaches.

Conclusion

EBP calls for, whenever possible, psychologists to ground their practice in empirical evidence that is likely to produce predictable and effective results within the context of the client's needs (Dozois et al., 2014; Kratochwill & Shernoff, 2004). Guided by the S-P model, psychologists are expected to be engaged in critically evaluating scientific literature, integrating evidence within a decision-making process, implementing evidence-based treatments, monitoring client progress, and committing to ongoing PD. While barriers to implementing these strategies in practice continue to exist, PRNs and new evidence-based approaches offer opportunities for psychologists to provide EBPs, allowing clients to receive the most effective treatments. These opportunities also hold promise for narrowing the science-practice gap.

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Philosophy Matters: Aristotelian Insights for Positive Psychology

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Abstract

Positive psychology's leading figures tend to describe human flourishing in affective and instrumental terms – viewing virtues as tools to increase one's happiness. Many psychologists have critiqued positive psychology for describing *eudaimonia* (human flourishing) in this manner, arguing that its leaders make erroneous philosophical assumptions about what kind of life is truly best for human beings. Within neo-Aristotelian thought, *eudaimonia* is predicated upon virtuous living in community environments. By using the profound sociality of human beings as its empirical bedrock, neo-Aristotelian ethics describes flourishing in terms of what is, broadly speaking, naturally good for human beings without being narrowly prescriptive. I contrast positive psychology with a neo-Aristotelian theoretical psychology, arguing that the latter provides a superior psychological understanding of human flourishing in a Western cultural context. This article will demonstrate that philosophy matters in psychology, particularly when articulating the nuances of morally-laden concepts such as human flourishing.

Résumé

Les chercheurs éminents de la psychologie positive ont tendance à décrire l'épanouissement de l'humain en adoptant une terminologie des domaines de l'affectivité et de l'instrumentalisme – en considérant les vertus comme des outils pour accroître le bonheur. De nombreux psychologues ont critiqué la psychologie positive pour avoir décrit l'eudémonisme (l'épanouissement humain) de cette façon en arguant que ces chevronnés font des hypothèses erronées de nature philosophique sur le style de vie qu'ils estiment être le meilleur pour les humains. Dans la pensée néo-aristotélicienne, l'eudémonisme est fondé sur une vie vertueuse dans des environnements communautaires. En se servant de la socialité profonde des êtres humains comme base empirique, l'éthique néo-aristotélicienne décrit, de manière générale, l'épanouissement selon ce qui est naturellement bon pour les êtres humains sans toutefois l'encadrer de manière prescriptive. Je mets en contraste la psychologie positive et la psychologie

théorique néo-aristotélicienne en faisant valoir que cette dernière offre une compréhension psychologique supérieure de l'épanouissement de l'humain dans un contexte culturel occidental. Cet article vise à démontrer que la philosophie est importante en psychologie, partiellement lorsqu'il s'agit d'exprimer avec nuance des concepts moralement chargés tels celui de l'épanouissement de l'humain.



Resurgent interest in virtue ethics' applications for psychology was catalyzed by the positive psychology movement, which originated from dissatisfaction with the then-limited understanding of human excellence, strength, happiness, and virtue in psychology (Seligman & Csikszentmihalyi, 2000). Virtues are broadly understood as characteristics – represented in habitual patterns of behaviour – that enable a person to function well (Fowers, 2005; Peterson & Seligman, 2004). To remedy the then-overwhelming focus on human problems in psychological theory and research, Peterson and Seligman (2004) ambitiously created a classification of character strengths and virtues (CSV) with a corresponding self-report measure called the Virtues in Action Inventory of Strengths (VIA-IS). Seligman (2011) furthermore defines flourishing/eudaimonia in affective terms: of having achievements, emotions, engagement, relationships, and meaningful experiences that are positive.

Positive psychology was intended to become a “culture-free, universally applicable, and normatively-neutral science” of virtue and character (Banicki, 2014, p. 23). To this end, Seligman's (2002, 2011) descriptions of flourishing treat virtues and character strengths as tools for achieving greater happiness. However, in doing so, Seligman makes implicit normative commitments to instrumentalism and subjectivism. Instrumentalism is an attitude that regards means as disposable in service to achieving a particular outcome. For example, a basketball player can play cooperatively or selfishly (the means) in an effort to score lots of points (the outcome). Moral subjectivism, on the other hand, is the belief that individuals alone determine what is right or good for them. But from an instrumental and subjective

perspective of virtue, the only valid moral evaluation of daily activities is whether their outcomes increase one's subjective happiness. As a consequence, virtues become *disposable* tools for increasing happiness rather than essential elements of excellent character.

To characterize him fairly, Seligman (2011) indeed regards some activities, behaviours, and outcomes as morally superior to others. However, Fowers, Richardson, and Slife (2017) argue he does not arrive at this conclusion in a philosophically consistent manner. By understanding moral virtues as instrumental tools to increase subjective happiness, positive psychology has difficulty differentiating virtuous and non-virtuous behaviour. For example, a person might enjoy cheating or lying to achieve his or her goals. However, it seems intuitively incorrect to categorize such behaviour as virtuous simply because – to borrow Seligman's (2011) terms – that person felt vitalized or positively engaged by cheating or lying. One study even suggests that feelings of vitality may not be a good indicator of *eudaimonic* functioning (Fowers, Mollica, and Procacci, 2010). If instrumental and hedonic descriptors will not suffice to properly distinguish virtue from vice, then positive psychology requires a more robust characterization of human flourishing.

A New Approach: Faithfully Incorporating Aristotle

In the CSV, Peterson and Seligman (2004) describe Aristotle's ethics as significantly influencing their work. However, contra Aristotle, positive psychology's leading figures tend to describe flourishing in hedonic and instrumental language (Richardson & Guignon, 2008). Alternatively, Aristotle (2004) conceptualized human flourishing as a description of one's life-as-a-whole rather than the summation of positive subjective states. He saw flourishing as a lifelong project predicated upon living virtuously, pursuing higher order goals, and seeking personal growth within genuine and collaborative relationships with others.

While the founders of the positive psychology movement are to be lauded for their courage to discuss the good life in psychological science, many have argued that they do not succeed in describing virtue and character in a culture-free, value-neutral manner (Banicki, 2014). Positive psychology is deeply encultured in Western values of subjectivism and instrumentalism – treating individual happiness and goal achievement as primary moral concerns (Christopher, Richardson, & Slife, 2008; Fowers, 2005; Sugarman, 2007). However, human brains evolved to be profoundly social (Dunbar, 2016; Lieberman, 2013), and a truly robust description of human flourishing must acknowledge our fundamental dependency upon others for well-being and self-understanding (Fowers et al., 2017; MacIntyre, 1999). Thus, describing virtues as instrumental tools to in-

crease individual happiness undermines positive psychology's attempt to promote the Aristotelian notion of flourishing its leaders claim to advocate (Sugarman, 2007).

In the remainder of this article, I seek to eschew a value framework that treats instrumental aims and subjective appraisals as definitive markers of flourishing, while retaining a moderate commitment to individualism in a psychological theory of virtue. I ask the reader to not misinterpret me as claiming subjective happiness is unrelated to human flourishing. It is quite reasonable to think flourishing is positively correlated with positive emotion while remaining irreducible to affective states alone (Huta, 2015). Neither am I aiming to delineate a universal description of human flourishing. Rather, I am making the modest claim that neo-Aristotelianism offers a robust conception of *eudaimonia* for psychological research and theory in a Western cultural context.

Characterizing the Good Life in Aristotelian Terms

Contemporary advocates of Aristotelian virtue ethics argue that acknowledging human ultrasociality and dependency is necessary for understanding human flourishing (e.g., Fowers et al., 2017; MacIntyre, 1999). Campbell (1982) defines ultrasociality as "the most social of animal organizations, with full-time division of labour, specialists who gather no food but are fed by others, effective sharing of information about sources of food and danger, [and] self sacrificial effort in defense of the collective" (p. 160). Human beings are one of few organisms to make this major evolutionary transition (Wilson, 2012) and, to his credit, Aristotle (2004) frequently noted the profound sociality of human beings in his ethical theory. From this observation, Aristotle inferred that a flourishing human life was not a positive sum of pleasant subjective appraisals. Instead, he believed flourishing required connection with others and involvedness in one's community, poignantly stating that, "Nobody would choose to live without friends even if he had all other good things" (p. 200).

Rather than deducing calculative principles of utility or moral duties common to most Western ethical systems, neo-Aristotelian virtue ethicists outline broad hierarchies of goods to describe the *eudaimonic* life (e.g., MacIntyre, 1981, 1999; Taylor, 1985). Fowers (2012) defines goods as relatively abstract ideals a person orients his or her actions toward, whereas goals are proximal and concrete formulations of goods. For example, if a person values the good of knowledge, a goal aimed toward that good would be to read an intellectually challenging book. Fowers (2015) also argues that natural human goods, such as attachment and justice, emerge from our evolved nature as ultrasocial creatures. There are two dimensions of goods in this frame-

work: The (a) communal and (b) agentic dimensions (Fowers et al., 2017). Within each dimension are two kinds of goods: the communal dimension is comprised of (1) individual and (2) shared goods, whereas the agentic dimension contains (1) instrumental and (2) constitutive goods.

The Communal Dimension

Individual goods are things that can only be possessed and/or experienced by individual persons (Fowers, 2012). For example, a soccer player's scoring may increase by cooperating with her teammates, but the goals scored ultimately belong to the individual. Shared goods, on the other hand, are ends that can only be attained and possessed in community with others (Fowers et al., 2017). Unlike individual goods, shared goods are not finite resources – they are present as long as two or more people continue participating in them. For example, friendship cannot be possessed in isolation, requiring two people to actively contribute to and participate in the relationship. Without joint participation, friendships dissolve or do not exist at all. Fowers (2012, 2015) also states that – due to our ultrasocial nature – shared goods are naturally more meaningful for human beings, rendering them hierarchically superior to individual goods.

The Agentic Dimension

The second distinction within the neo-Aristotelian hierarchy of goods is between instrumental and constitutive activities (Fowers, 2012). Instrumental activities are means-ends activities, in which the object of one's action is to obtain some distal goal, whether the means to achieve it are virtuous or not (Fowers, 2005). The value of an instrumental good is only in reference to what it can be used to obtain, and thus these goods cannot be rightly understood as ends-in-themselves. An example of an instrumental good is monetary wealth. Money's value lies in its contribution to the attainment of further goals. However, if an individual values money too much, moral concerns such as fairness, reciprocity, or harm can become secondary to wealth acquisition. In sum, prioritizing instrumental goods is not necessarily concordant with virtuous behaviour.

Constitutive activities, on the other hand, are inseparable from the ends one pursues in relation to an overarching good(s) (Fowers, 2012). An example of this kind of activity would be child-rearing. Raising one's children to be strong and healthy (psychologically and physically) is impossible without embodying virtues and character strengths pertinent to that activity (e.g. honesty, courage, love). In other words, being a good parent means doing the activity of child-rearing well, which requires the cultivation of virtue. Thus, a constitutive good is inseparable from virtuous activities which

constitute the desired end. Because of their inseparability from virtuous behaviour, constitutive goods are considered hierarchically superior to instrumental goods.

Bringing it All Together

Shared and constitutive goods are regarded as superior to individual and instrumental goods within a neo-Aristotelian *eudaimonic* structure (Fowers, 2015). Shared goods are naturally desirable for human beings due to our evolved ultrasocial nature and dependency upon others. Pursuing constitutive goods requires the embodiment of moral virtue, endowing them with superior status over instrumental goods. Thus, the pursuit of shared and constitutive goods (e.g., belonging, friendship, justice, knowledge) is integral to human flourishing. In a neo-Aristotelian framework, to flourish is to prioritize constitutive and shared goods in one's personal hierarchy of goods without unnecessarily depriving oneself of individual and instrumental goods.

Flourishing in a neo-Aristotelian framework can thus be characterized as a general mode of being in which socially constructive and naturally desirable ends are pursued in rational, morally excellent ways (Fowers, 2005). Given our ultrasocial nature, individual and instrumental goods retain value insofar as they contribute to larger shared and constitutive goods (Fowers, 2012). Prioritizing constitutive and shared goods provides daily individual and instrumental activities with meaning beyond individual achievement and subjective happiness.

A modern interpretation of Aristotle's ethical framework provides psychology with a general structure of human flourishing without prescribing *particular* ends/activities for individuals to pursue. In other words, human flourishing can take myriad forms for individuals *within* the constraints of what is naturally good for human beings. In our Western context, this neo-Aristotelian description of *eudaimonia* retains individual autonomy to choose one's pursuits, without neglecting how important community and healthy dependency are for human flourishing (Fowers et al., 2017).

Summary and Applications

Neo-Aristotelian virtue ethics breaks away from the instrumental and hedonic descriptors of flourishing that pervade positive psychology (Christopher et al., 2008; Fowers, 2005; Sugarman, 2007). By emphasizing the social nature of our species, neo-Aristotelianism provides a way for psychologists to discuss and study *eudaimonia* without defaulting to instrumental and hedonic descriptors of functioning well. This theoretical perspective has already had edifying effects on understanding flourishing in both marital and occupational contexts. Fowers (1998, 2000, 2001) discusses the im-

portance of moral virtue in facilitating good communication skills and developing a shared understanding of what is good between married partners. Others discuss the importance of practical wisdom – another Aristotelian concept – in occupational environments (Schwartz, 2011; Schwartz & Sharpe, 2010). Like Aristotle, these psychologists emphasize the social nature of moral virtue and argue such qualities are necessary for flourishing in one's marriage and/or job. Aristotle's view of flourishing has also inspired psychologists to differentiate *eudaimonic* well-being from subjective or hedonic well-being (Huta & Waterman, 2014). In this literature, the former is characterized in terms of meaning and growth, whereas the latter is defined in affective, here-and-now language. In sum, Aristotle's influence is much stronger in positive psychology today.

When discussing human flourishing, philosophy matters in psychology. A neo-Aristotelian description of what is naturally good for human beings yields a natural *eudaimonic* structure, wherein constitutive and shared goods have superior hierarchical status (Fowers, 2012, 2015). This structure fits well in a Western, individualistic context without resorting to descriptors of virtue and/or flourishing that are purely instrumental and subjective. As a result, Aristotle's framework offers genuine guidance regarding what ends are best to pursue for human beings (i.e., shared and constitutive goods) without being narrowly prescriptive. Hopefully, this article sparks further dialogue amongst psychology students about human flourishing in Western (and non-Western) contexts.



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Constructing an Inclusive World: Reflecting on How Language Can Impact Perceptions of Mental Illness

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Abstract

The social constructionist perspective indicates that language has the power to influence our thoughts. Consequently, language used in the context of mental health may impact public perceptions of mental illness and, by extension, beliefs about mental illness. Given that negative attitudes towards individuals with mental health challenges often act as a barrier to receiving support, language may be an important tool for combatting the stigma of mental illness. Using person-first language can aid in achieving this goal, as it focuses on the individual and not his/her disability. The psychological community has the power to advocate for the use of respectful language, but it is up to the general public to make person-first language the norm. Updating the ways in which mental health is discussed can impact how individuals with mental illness are perceived and ultimately contribute to a more inclusive society.

Résumé

L'approche du constructivisme social suppose que la langue a le pouvoir d'influencer nos pensées. Conséquemment, le langage utilisé dans le contexte de la santé mentale peut affecter la perception que le public a de la maladie mentale et, par extension, les croyances qu'ils entretiennent au sujet de la maladie mentale. Étant donné que les attitudes négatives à l'égard des personnes vivant avec un trouble de santé mentale représentent souvent un obstacle à l'obtention de soutien, la langue peut s'avérer un outil important pour lutter contre la stigmatisation associée aux troubles de santé mentale. L'utilisation du PFL, soit le langage de la personne d'abord, peut aider à atteindre cet objectif, car l'expression du langage est principalement centrée sur la personne et non pas sur son handicap. La communauté psychologique a le pouvoir de plaider pour l'utilisation d'un langage respectueux, mais il appartient au public de faire du langage de la personne d'abord la norme. Une actualisation du langage utilisé pour parler de santé mentale pourrait avoir des répercussions sur la perception que nous avons des personnes vivant avec un trouble de santé mentale et ultimement cela pourrait contribuer à construire une société favorisant grandement l'inclusion.

If I told you that words have the power to shape reality, what would you initially think? This may sound like a phrase from a science fiction novel, yet it is an idea that social constructionists have believed in and promoted for decades. While the term “social constructionism” has been defined in several ways, it is primarily a theoretical approach that is characterized by skepticism (Burr, 2004, p. 2). In particular, social constructionism is a theory that states that people jointly construct reality through social and cultural interactions; one way that reality can be constructed is through language (Willig, 2001). Thus, through the lens of social constructionism, the language used when discussing mental health will have significant implications for individuals diagnosed with mental illness. Indeed, how mental illness is discussed will impact public perceptions and, in turn, individual reputations (Granello & Gibbs, 2016). This paper will examine how language impacts perceptions of mental illness and how the field of psychology can improve the everyday reality for people living with mental illness.

With each mental health diagnosis, individuals are assigned a label; and while labels, such as “anxiety”, “depression”, and “schizophrenia”, effectively capture a collection of symptoms and presenting challenges, these labels also carry additional meanings with negative connotations (Rössler, 2016). These negative connotations can be attributed to many factors, however, two are most prominent. First, these alternative meanings may stem from humanity’s long history of ignorance on the topic of mental illness and the historical suffering, isolation, punishment, and death of individuals with mental health challenges (Rössler, 2016). Second, these negative connotations may be attributed to the ongoing portrayal of individuals with mental illness as dangerous or strange in the popular media (Rössler, 2016), as in movies like *Joker* and *Split*. Regardless of the origin of these negative stereotypes, the labels used to describe mental health challenges continue to evoke negative affect towards those afflicted despite advancements in our knowledge, and awareness, of mental illness. As a result, the subsequent stigma often leaves people with mental illness feeling marginalized in society and contributes to rates of low self-efficacy (Ben-Zeev, Young, & Corrigan, 2010). Furthermore, people with mental illness may



feel ashamed of their diagnoses and may, therefore, reject their diagnostic labels and avoid seeking mental health services (Ben-Zeev et al., 2010). In alignment with the social constructionist view, these findings demonstrate that stigmatizing language can create a reality where individuals with a mental illness are isolated, rather than supported.

In the 1990's, concern about the detrimental effects of labelling increased, and several psychologists began to advocate for the replacement of traditional pre-modified nouns with person-first language to refer to people with mental illness (e.g., an individual was no longer referred to as "schizophrenic", but rather, "a person with schizophrenia"; Granello & Gibbs, 2016). Language that focuses on the individual versus the illness is empowering because it emphasizes the person as a whole, not their condition (McCoy & DeCecco, 2011). Indeed, social constructionists would argue that changing how one speaks about mental health also changes the way one thinks about mental illness. A recent study conducted by Granello and Gibbs (2016) demonstrated that linguistic shifts can be used to elicit positive results. They demonstrated that individuals will express more positive attitudes towards people with mental illness when presented with person-first descriptors in a survey compared to pre-modified nouns (Granello & Gibbs, 2016). This suggests that person-first language increases acceptance of people with a mental illness because it influences thought processes and, by extension, perceptions. In turn, greater acceptance of mental illness reduces stigmatization and fosters support-seeking (Gulliver, Griffiths, & Christensen, 2010).

Given the impact of language on views of mental illness, psychologists have a responsibility to lead by example, assist others in using proper language, and promote positive perceptions of mental illness. In 2013, the Canadian government published guidelines for talking about people with disabilities, including those with mental illnesses. These guidelines recommended using person-first language and avoiding terms with negative connotations such as "sick", "the disabled", and "suffering from a mental illness". Similarly, the American Psychological Association (APA) recognizes the important role of language in shaping perceptions of mental illness and has established a list of terms deemed problematic (e.g., "the disabled") and preferred (e.g., "people with disabilities"; APA, 2019). Moreover, in an effort to include the public voice, the APA publicized draft versions of the Diagnostic and Statistical Manual of Mental Disorders 5th Edition (DSM-V) to get input on the respectfulness of their guidelines and to mitigate the potential harm

of language (APA, 2010). Together, these examples demonstrate how the discipline is trying to end the stigma towards mental illness. It should be noted, however, that the DSM-V still includes a categorical diagnostic system and has not yet adopted the dimensional approach (Adam, 2013). This change would influence how mental illness is perceived by placing disorders on a spectrum rather than viewing them as present or absent (Ben-Zeev et al., 2010). Although this perspective of mental illness is relatively new and underrepresented in the literature and in practice, its adoption could have substantial effects on how the general public perceives mental illness.

The psychology community can continue to guide language in a positive direction by establishing official guidelines and taking steps to promote compliance. Psychologists should also actively advocate for the use of person-first language in all areas of society. For instance, person-first language should be used in all educational settings and textbooks, so this terminology becomes the norm for future generations. Furthermore, this language should be modelled in the media, including TV shows, movies, books, news outlets, and advertising. Additional research is needed to demonstrate the impact of language on perceptions of people with mental illness, as this may help facilitate a change in the terminology used (e.g., Granello & Gibbs 2016; Wyder et al., 2016). Further, research investigating the validity of a mental illness spectrum is needed to stimulate changes in future DSM revisions.

While it may be up to governing bodies such as the APA and the Canadian Psychological Association (CPA) to establish official guidelines, it is up to psychologists, students, and members of society to use language in a way that constructs an inclusive reality. By making a conscious effort to use person-first language, we have the ability to re-shape how mental illnesses are collectively perceived and an opportunity to restore the dignity of affected individuals. Moreover, keeping the concept of a spectrum in mind when discussing mental health can help to normalize the idea that we all exist along the same continuum (see Westerhof and Keyes' [2010] Two Continua Model of Mental Health and Illness for an illustration of this concept). Employing a social constructionist viewpoint broadens our understanding of how ingrained speech patterns can impact perceptions of mental illness and it provides opportunities for intervention. A linguistic shift requires the commitment of researchers, psychological organizations, governments, media, and the general public to construct a reality that views mental illness in a positive light.



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Is Her Brain Different Than His Brain? A Critical Introduction to Research on the Nature of Neurobiological Differences Between Males and Females

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Abstract

Research exploring sex differences in the brain is valuable in tailoring treatment to male and female biology in fields such clinical psychology and medicine (Anderson et al., 2019). However, the cause and extent of sex differences in the brain remains contentious. This article outlines four main points from conflicting research on sex differences in the brain. First, while research suggests that male and female brains differ structurally, it also suggests that male and female brains are similar enough that they cannot be classified as two different types of brains. Second, sex differences in the human brain contribute to differences in behaviour, but do not determine them. Third, environmental factors, as well as biological factors, must be considered when examining sex differences in the brain. The article concludes by discussing valuable reporting methods about sex differences that reduce the possibility of negative gender stereotyping.

Résumé

La recherche qui s'intéresse aux différences du cerveau en fonction du sexe se révèle précieuse pour l'adaptation de traitements selon les particularités biologiques de l'homme et de la femme dans divers domaines tels ceux de la psychologie clinique ou de la médecine (Anderson et collab., 2019). Cependant, la raison et la mesure de ces différences dans le cerveau font l'objet de controverses. Cet article reprend les principaux points découlant de recherches contradictoires sur les différences du cerveau en fonction du sexe. Premièrement, alors que la recherche indique que les cerveaux féminin et masculin diffèrent structurellement, elle avance également que les similitudes entre les deux sont suffisamment grandes qu'ils ne peuvent être classés comme deux types de cerveaux différents. Deuxièmement, les différences du cerveau en fonction du sexe contribuent à l'adoption de différents comportements, sans toutefois les dicter. Troisièmement, les facteurs environnementaux ainsi que les facteurs biologiques doivent être pris en con-

sidération au moment d'examiner les différences du cerveau féminin et masculin. L'article se termine par une discussion sur des méthodes de rapport utiles pour restreindre les possibilités de véhiculer des stéréotypes sexistes négatifs.



There is heated debate within psychology on the nature and origin of structural and functional sex differences in the brain (Hyde, Bigler, Joel, Tate & van Anders, 2019). In this article we use sex to refer to biologically differentiated processes (e.g., the inheritance of XX or XY sex chromosomes), and the term gender to capture differences that are influenced by social and cultural processes (American Psychological Association, 2019). Some scholars argue that the presence of robust and reliable structural differences between male and female brains give rise to differences in brain functioning and human behaviour (Ruigrok et al., 2014). Others disagree, arguing that research should not distinguish between male brains and female brains, and that sex differences in behaviour are not attributed to structural or functional differences in the brain (Joel, 2019; Joel et al., 2015; Rippon, 2019). This paper will briefly outline both of these seemingly contradicting views, and then argue that after addressing concerns of terminology and how the research is portrayed these two views can co-exist.

Within the field, scholars also disagree about the origin of putative differences in male and female brains. For some, differences are largely the result of genetically mediated hormonal factors that have their distal roots in our evolutionary history (Bayless & Shah, 2016; Del Giudice, Puts, Geary & Schmitt, 2019; Rosselli, 2018). Others claim that differences are shaped by social and cultural experiences of men and women (Fine, Joel & Rippon, 2019; Hyde et al., 2019). Establishing the nature and origin of sex differences in the human brain is important, as the find-

ings of research can lead to more accurate medical procedures, treatment for physical and mental health issues, and diseases and disorders that have differentiating effects on men and women (Voskuhl & Klein, 2019; Ruigrok et al., 2014).

Given this debate, a critical review of literature on the structural and functional differences between male and female brains provides clarity to this contradictory body of knowledge. The paper outlines first that research supports that there are reliable structural differences between male and female brains, however the idea that male and female brains are entirely separate structures is shown to be inaccurate. Second, while sex differences in the human brain can cause differences within behaviour, these differences are not the determining factor of behaviour. And third, any complete account of the origin of sex differences in the brain and behaviour must account for the influence of evolutionary history, genetically mediated hormonal processes, and the role of social and cultural environments. Finally, we demonstrate how research on sex differences in the human brain can be effectively communicated while avoiding the reinforcement of stereotypes.

Sex Differences in the Brain

Current research indicates that there are sex differences in the human brain (see Ruigrok et al., 2014). Studies document that male brains are larger than female brains, even when controlling for body mass (Cosgrove, Mazure & Stanley, 2007; Lenroot & Giedd, 2010; Ruigrok et al., 2014; Sacher, Neumann, Oken-Singer, Gotowiec & Villringer, 2013;). After accounting for differences in brain size, there are still structural gray matter differences in male and female brains (Luders, Gaser, Narr & Toga, 2009; Bishop & Walhsten, 1997; Luders, Toga & Thompson, 2014). The volume of subcortical and interior cortical areas, such as the amygdala, hippocampus and posterior cingulate in male brains are larger, while the volume in the frontal cortical regions, such as the inferior frontal gyrus, middle frontal gyrus, and frontal poles is greater in female brains (Sacher et al., 2013). Organizational differences include stronger connectivity in the default mode network for female brains, and stronger connectivity for male brains in unimodal sensorimotor cortices (Ritchie et al., 2018).

Critics of sex differences argue that this research implies a gender binary with distinct male brains and female brains, when in fact, there is considerable overlap in the structural and functional features of male and female brains, as well as a lack of internal consistency within male and female features (Hyde et al., 2019; Fine et al., 2019; Joel et al., 2015; Rippon, 2019). In other words, critics suggest that male brains

have characteristics that fall into the female-typical range, while female brains have features in the male-typical range. According to critics, “most brains are comprised of unique ‘mosaics’ of features” rather than distinct male and female features (Joel et al., 2015, pg. 15468).

Clarity on divergent views about sex brain differences can be established by examining how the research is presented, including what terminology is used. Scholars challenging the idea of sex differences in the human brain argue that the idea of sexually dimorphic brains is false, and therefore research should not differentiate between male brains and female brains. One issue here is terminology. Hyde et al., (2019) argue that sexual dimorphism in the human brain is false because dimorphism implies no overlap between male and female characteristics, however, Del Giudice et al. (2019) note that sexual dimorphism is employed in the biological literature to refer to significant differences between the sexes, even if the distribution of traits overlap.

Another issue concerns how the differences between male and female brains are presented in literature. Joel et al.’s (2015) concept of “brain mosaicism” (pg. 15468) rests on the idea that brains are a combination of more male-like and more female-like features. This is an important insight, but still compatible with the idea that, on average, and across features, male and female brains can be distinguished from each other at greater than chance levels (see Del Giudice et al., 2019). In fact, a recent study suggests that over 90% of individuals can be correctly classified as male or female based on gray matter volume and concentration (Anderson et al., 2019). In sum, it is best to simultaneously present both the idea that there are reliable average differences between male and female brains, as well as substantial overlap between some male and female features.

Do Sex Differences in the Brain Influence Behaviour?

Fine et al. (2019) state that structural differences do not map onto psychological or behavioural differences. They warn against using structural differences to explain functional differences between male and female brains. This issue highlights the problem of reverse inference in cognitive neuroscience: demonstrating a relationship between a part of the brain and a psychological or behavioural outcome does not mean that the brain region caused that outcome. While it may be intuitive to assume one brain area contributes to one behaviour, the network modularity model describes that multiple neural networks often contribute to one behaviour, making it difficult to directly connect structure to function (Anderson et al., 2019).

Empirical research outlines a link between sex differences in the brain and anti-social behaviour (Anderson et al., 2019; Michalska, Decety, Zeffiro & Lahey, 2015; Michalska, Zeffiro & Decety, 2016; Raschle et al., 2018). According to Michalska and colleagues (Michalska et al., 2015; Michalska et al., 2016) approximately 77% of these differences in anti-social behaviour between men and women are associated with reductions in the orbital-frontal and middle frontal gray area. Anderson and colleagues (2019) show that the volume of subcortical gray matter is higher in men, and that amygdala patterns of activity and volume are greater in male brains. As well, the research found that female brains have higher levels of orbitofrontal gray matter (Anderson et al., 2019). Plausibly, these findings could relate to anti-social behaviour, as increased amygdala activity and decreased orbital frontal activity is associated with violence and aggression (Coccaro, Mccluskey, Fitzgerald & Phan, 2007; Meyer-Lindeberg et al., 2006). Despite these findings, research must recognize that, for a complex behaviour like aggression, many causal processes like culture and environment are important, and differences in brain structure and function are only part of the story (Durrant, 2019; Suchting et al., 2018; Yalcin & Erdogan, 2013).

The Origin of Sex/Gender Differences in the Brain

The cause of neurobiological sex differences is mainly attributed to the influence of biological prenatal factors (Hines et al., 2016; Hines, 2011) The SRY gene on the Y chromosome, in combination with other genes, is key in gonadal differentiation between sexes (Hines, 2011). This results in higher testosterone exposure for a male fetus compared to a female fetus, leading to important organizational effects on the developing brain and possibly accounting for the sex brain differences (De Vries & Forger, 2015; Hines, 2011; McEwan & Milner, 2017). The importance of prenatal exposure to testosterone is highlighted especially in the first three months before birth, although testosterone also plays a role postnatally (Rosselli, 2018). Ultimately, it is argued that these differences in brain structures between sexes are the product of evolutionary processes (Archer, 2019).

Although evidence exists for the role of prenatal testosterone in shaping male-typical neural structures (see Bramble, Lipson, Vashist & Vilain, 2017; Hines et al., 2016), and research has demonstrated in utero sex brain differences (Wheelock et al., 2019), it is important to recognize the role of non-biological factors. The environment can influence the way that genes are expressed and the structure and function of the brain. Epigenetics is the process whereby gene ex-

pression is altered due to environmental influences, such as maternal care (Cortes, Cisternas & Forger, 2019). Research in epigenetics shows that experiences can influence the structure and function of the brain using an epigenetic process called DNA methylation (Cortes, Cisternas & Forger, 2019). Kurian and colleagues (2010) show that differences in the level of parental care influences the DNA methylation of the estrogen receptor alpha gene in the brains of mice. Although there is limited research on this topic specific to sex differences, if men and women are treated significantly different in society these differences in experience may result in differences in brain structure (Cortes, Cisternas & Forger, 2019).

Communicating Research on Sex Differences

A common concern in neuroscientific research on sex differences in the brain is that the results could be generalized to create stereotypes, and a distorted understanding of sex differences (Fine et al., 2019). The public may, for example, interpret findings that point to neurobiological differences between male and female brains as evidence that behavioural and psychological differences between genders are inevitable.

Fine et al. (2019) emphasize that research findings need to be transparent so both significant and non-significant results are reported, suggesting that articulating the whole picture will decrease the chance of stereotyping. Publication bias also leads researchers to emphasize significant findings and downplay non-significant findings (Fine et al., 2019). Thus, journals need to widen their acceptance criteria in order to communicate a more accurate picture of this body of research to the public.

Fine and colleagues (2019) highlight the importance of reporting the effect size in research. Effect size indicates the extent of a significant finding. For example, studies on sex differences in the brain, with small effect sizes indicate that while there are differences between male and female brains, many aspects also overlap. The fact that effect sizes can illustrate that there is overlap between male and female brain structures could work to reduce gender stereotyping. The more accurate visual representation of data also helps to dispel overly simplistic notions of sex brain differences (see Del Giudice, 2019).

Environmental influences on sexual differences in the brain are important to consider (Fine et al., 2019). More research on how the environment influences sex differences in the brain could reduce the over-emphasis on the influence of prenatal hormones in the literature. Gender stereotypes are less likely to exist if the brain is accurately portrayed as flexible, rather than predetermined.

In conclusion, there is a consensus in research that the structure and function of male and female brains differs on average. However, debate continues about the nature and causes of these differences. Research suggests that the concept of distinct male and female brains is not accurate; yet, it is important to recognize that there are differences, and that these differences play a role in understanding some behavioural and psychological sex differences. Although brain differences are influenced by prenatal processes, it is important to recognize the way that environmental factors experienced postnatally (including those that are experienced differently by men and women) also contribute to differences between male and female brains (Cortes, Cisternas & Forger, 2019). The value of transparency in research on differences between male and female brains is key (Fine et al., 2019) and researchers need to pay careful attention to the way their findings are presented to reduce the likelihood of gender stereotypes.

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La perception du leadership transformationnel : présence de profils latents et lien avec le bien-être

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Résumé

Le leadership transformationnel est un type de leadership abondamment étudié ces dernières décennies et reconnu comme une des approches de gestion la plus efficace. L'impact positif du leadership transformationnel sur le bien-être est admis, mais beaucoup de questions subsistent pour clarifier la relation complexe entre ces deux concepts. L'objectif de cette étude est d'explorer la possibilité de profils latents dans la notation du modèle de leadership transformationnel de Rafferty et Griffin (2004) et d'examiner les liens potentiels entre les profils et le bien-être des employés. L'étude repose sur une enquête en ligne menée auprès de 201 employés de secteurs variés. Les analyses en profils latents permettent de distinguer trois profils de leadership transformationnel. Nos analyses indiquent que le profil centré sur la stimulation intellectuelle est associé à un bien-être plus élevé que les autres profils. Nos résultats sont discutés relativement aux retombées théoriques, pratiques ainsi qu'aux limites de cette étude.

According to our analyses, an interconnection exists between the profile that focuses on intellectual stimulation and a higher state of well-being. Our results are discussed in relation to the theoretical and practical considerations of this study and its limitations.



Le leadership transformationnel est le type de leadership le plus abondamment étudié ces dernières décennies et reconnu comme une des approches de gestion la plus efficace (Bass, 1985 ; Judge et Piccolo, 2004 ; Avolio et al, 2004 ; Dionne et al, 2004). L'impact positif du leadership transformationnel sur le bien-être des employés est admis, mais beaucoup de questions subsistent pour clarifier la relation complexe entre ces deux concepts. De nos jours, le bien-être psychologique des travailleurs est une préoccupation des organisations qui sont de plus en plus conscientes que les travailleurs qui se sentent bien psychologiquement sont plus performants et inversement, la performance est liée au bien-être psychologique (Wright et Cropanzano, 2000; Harter et al, 2003). Ainsi une revue de littérature récente montre que ce type de leadership est lié positivement au bien-être (Arnold, 2017), bien que des chercheurs suggèrent d'explorer mieux ce lien afin de saisir la complexité de cette relation (Arnold, 2017 ; Arnold, Turner, Barling, Kelloway, & McKee, 2007). Malgré l'abondance des recherches, des critiques ont remis en cause les conclusions hâtives sur le leadership transformationnel, notamment sur le flou qui entoure la conceptualisation des multiples dimensions qui composent le leadership transformationnel (van Knippenberg & Sitkin, 2013). De plus les études se sont exclusivement penchées sur l'approche centrée sur les variables, en prenant en compte un score global sur l'ensemble des dimensions du leadership transformationnel. Or cette approche comporte une limite : l'échantillon est considéré comme un ensemble indistinct. Une approche alternative, l'analyse par profils

Abstract

Transformational leadership is a type of leadership that has been extensively studied in recent decades and is recognized as one of the most effective management approaches. The positive impact of transformational leadership on the state of well-being is accepted, but in order to clarify the complex relationship between the two concepts many questions need to be answered. The objective of this study is to explore the possibility of latent profiles in the rating of Rafferty and Griffin's (2004) transformational leadership model and to examine the possible links between the profiles and the well-being of employees. The study is based on an online survey of 201 workers employed in a variety of sectors. The latent profile analyses show three transformational leadership profiles.

latents, centrée sur les personnes permet d'envisager la spécificité des relations qu'entretiennent des segments homogènes de population identifiés à partir de la notation des dimensions du leadership transformationnel avec la mesure du bien-être. Cette approche permet ainsi de clarifier la définition du leadership transformationnel d'une autre façon mais aussi de spécifier les liens avec le bien-être. Une meilleure compréhension des facettes du leadership transformationnel et le lien avec le bien-être à travers une approche centrée sur les personnes permettront ainsi une discussion dans des perspectives de gestion et d'aspect théorique. Nous proposons ainsi une étude exploratoire avec une approche par profil pour répondre aux questions de recherche suivantes :

Existents-ils des profils latents dans notre échantillon de travailleurs au regard de la notation des dimensions du leadership transformationnel ?

Si des groupes de profils existent, quels sont leurs caractéristiques et leurs liens avec le bien-être dans notre échantillon d'employés ?

Méthode

Cette étude exploratoire repose sur une enquête en ligne menée auprès de 201 employés de secteurs variés. Les participants ont été recrutés par le biais de la plateforme MTurk (Buhrmester, Kwang, & Gosling, 2016) pour remplir un questionnaire en anglais portant sur la perception du leadership transformationnel et le bien-être. Pour être admissibles à l'étude, les participants devaient avoir plus de 18 ans, être employés et avoir un superviseur à évaluer.

Participants

Au total 221 participants ont commencé à répondre à notre étude. Nous avons exclu ceux qui ont répondu uniquement aux questions sociodémographiques, ce qui amène notre échantillon à 201 participants. L'échantillon est composé de 60% d'hommes, venant majoritairement des États-Unis (78 %) dont l'âge moyen est de 34.8 ans. Nous avons classé leurs métiers selon la Structure de la Classification internationale type des professions de 2008 : 38.3 % occupaient des professions intellectuelles et scientifiques, 20.4 % étaient des directeurs, cadres de direction et gérants, 13.4 % occupaient des professions intermédiaires, 13.4 % faisaient partie du personnel des services directs aux particuliers, commerçants et vendeurs. Une minorité de l'échantillon faisaient partie des employés de type administratif (5.5 %), des professions élémentaires (3 %), des métiers qualifiés de l'industrie et de l'artisanat (2.5 %), des professions militaires (0.5 %) et 3 % n'avaient pas précisé leurs professions.

Mesures

Le leadership transformationnel (LT)

L'échelle de Rafferty et Griffin (2004) a été utilisée, elle est composée de 15 items mesurant cinq dimensions du leadership transformationnel, à savoir : la vision, la communication inspirante, la stimulation intellectuelle, le leadership de soutien et la reconnaissance personnelle (Annexe 1). Le questionnaire demande aux participants d'évaluer les comportements de leur leader avec une échelle de type Likert. Ce modèle a été validé par une analyse confirmatoire, les dimensions saturent sur un facteur global et les alphas de Cronbach vont de 0.82 à 0.96 (Rafferty et Griffin, 2004).

Le bien-être (BE)

L'échelle de Tennant et al. (2007), le Warwick-Edinburgh Mental Well-Being Scale (WEMWBS), a été utilisée. C'est un questionnaire auto-administré de 14 items, avec une échelle de type Likert indiquant la fréquence des états (1 = jamais, 2 = rarement, 3 = quelque fois, 4 = souvent, 5 = tout le temps) au cours des deux dernières semaines. Un exemple d'items traduit en français : « Je me suis senti(e) optimiste quant à l'avenir ». Ce questionnaire présente de très bonnes qualités psychométriques et sa consistance interne est excellente ($\alpha = 0.87\text{--}0.96$) (Tennant et al, 2007 ; Lloyd et Devine, 2015 ; Stewart-Brown et al, 2015).

Stratégies d'analyses

Les données sont analysées statistiquement à l'aide des logiciels Lavaan (Hoijtink et al, 2019), TidyLPA (Rosenberg et al, 2019) disponibles sur la plateforme R (RStudio Team, 2015) et le logiciel SPSS (version 22).

Dans un premier temps, une analyse factorielle confirmatoire (AFC) avec l'estimateur *Maximum Likelihood* est effectuée pour, à la fois, confirmer la structure du modèle de leadership à cinq dimensions et surtout obtenir les scores factoriels pour chaque dimension qui seront utilisés par la suite pour les analyses de profils. Nous avons comparé trois modèles : un modèle du leadership transformationnel à une dimension représentant l'opérationnalisation typique mais problématique du leadership transformationnel en un seul facteur (van Knippenberg et Sitkin, 2013), un modèle à 5 dimensions (annexe 1) et enfin un modèle en *bifactor* qui permet l'obtention de facteurs orthogonaux dont la variance unique est accentuée. Ce dernier modèle est conseillé dans le cas d'une structure factorielle complexe (Morin, Arens & Marsh, 2016) et convient donc pour l'échelle du leadership transformationnelle. Nous avons suivi les recommandations

dations de Jackson, Gillaspy et Purc-Stephenson (2009) pour le choix et l'interprétation des indices de l'AFC.

L'analyse des profils latents (APL) permet d'identifier des groupes de profils dans les données multivariées et d'obtenir des résultats plus fiables et robustes que les analyses de regroupement (Vermunt et Magidson, 2002). Cette méthode permet une comparaison de modèles, grâce aux indices statistiques indiquant quel modèle est le meilleur « fit » pour les données (Nylund, Asparouhov, & Muthén, 2007), la valeur la plus faible des indices (ie. AIC, BIC) indique le meilleur modèle d'ajustement (Nylund et al., 2007). L'APL est considérée comme une analyse exploratoire puisque dans la plupart des cas, il n'y a pas de théorie existante relativement au nombre de groupes de profils dans la population de l'échantillon étudié (Laudy et al., 2005). Les critères utilisés pour retenir le nombre optimal de profils sont l'AIC (*Akaike Information Criterion*) qui permet d'obtenir une mesure relative de l'information perdue lorsqu'un modèle est utilisé pour décrire la réalité, le BIC (*Bayesian Information Criterion*), qui est une approximation du calcul de la vraisemblance des données (Morin et al., 2011).

Enfin, une analyse de variance à un facteur nous a permis de déterminer s'il existe des différences dans la perception du bien-être selon l'appartenance à des profils latents.

Résultats

Les postulats tels que la normalité, la présence de valeurs extrêmes, la multicolinéarité et l'homogénéité des échelles ont été vérifiés de manière satisfaisante avant les analyses. Les moyennes et écart-types des variables à l'étude, de même que les corrélations entre celles-ci, sont présentées dans le tableau 1.

Tableau 1

Corrélation entre les dimensions du leadership transformationnel et la perception du bien-être

Mesures	1	2	3	4	5	6
1. Vision	—					
2. Communication inspirante	.636**	—				
3. Stimulation intellectuelle	.551**	.731**	—			
4. Soutien	.526**	.772**	.650**	—		
5. Reconnaissance personnelle	.562**	.749**	.648**	.740**	—	
6. Bien-être	.387**	.486**	.403**	.393**	.368**	—
Moyenne	3.89	3.89	3.62	3.64	3.89	3.68
Écart-Type	0.85	0.83	0.88	0.98	0.98	0.80

** La corrélation est significative au niveau 0.01

L'analyse factorielle confirmatoire

Les indices d'ajustement de l'AFC pour une comparaison des trois modèles testés sont présentés dans le tableau 2 :

Tableau 2

Résultats de l'analyse factorielle confirmatoire

Modèles	χ^2	Df	p	Ratio χ^2/df	CFI	TLI	SRMR	RMSEA
Modèle 1) 1 dimension	444.062	90	.000	4.934	.841	.814	.063	.140
Modèle 2) 5 dimensions	177.236	80	.000	2.21	.956	.943	.042	.078
Modèle 3) 5 dimensions (bifactoriel)	125.586	75	.000	1.674	.977	.968	.032	.058

Note. χ^2 = Chi-square ; Df = degrees of freedom ; CFI = comparative fit index ; TLI = Tucker-Lewis index ; SRMR = standardized root-mean-square residual ; RMSEA = root-mean-square of approximation

Le modèle 1 montre des indices d'ajustement faibles. Le modèle 2 montre des indices proches des seuils recommandés, il est donc adéquat mais pas excellent. Le modèle 3 montre une adéquation excellente. Cependant on note un cas Heywood, l'item 11 aurait une variance négative. Or, comme l'intervalle de confiance autour de la variance de cet item inclut des valeurs positives, cette valeur n'indique pas nécessairement une erreur dans la spécification du modèle (Kolenikov & Bollen, 2012). Ces résultats dans leur ensemble indiquent la bonne adéquation du modèle 3 aux données. Nous le retenons donc pour la suite des analyses.

L'analyse en profil latent

Selon l'indice AIC, cinq profils seraient le meilleur modèle alors que selon le BIC, l'indice le plus utilisé, trois profils seraient meilleurs. Les résultats d'analyses de l'APL sont décrits dans le tableau 3 :

Tableau 3

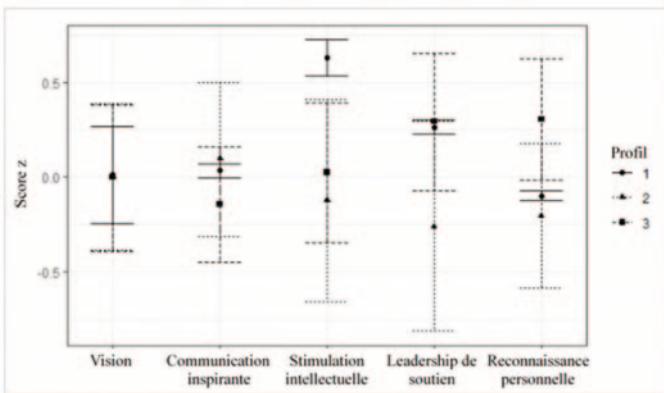
Résultats de l'APL avec mclust

Classes	AIC	BIC	Entropie	Prob-min	Prob-max	n-min	n-max	BLRT_p
5	2599.879	2778.257	0.809	0.758	0.997	0.080	0.488	0.010
3	2634.434	2740.140	0.711	0.803	0.997	0.090	0.463	0.010

Note. BLRT p-value: valeur p du test de ratio bootstrapped likelihood

Selon les résultats ci-dessus, le modèle à trois profils semble le meilleur à retenir, la probabilité minimum de classification est à .80 (vs .76). Les groupes plus importants favoriseront aussi la fiabilité des résultats. La figure 1 présente l'APL selon le modèle à trois profils.

Figure 1
Analyse en profils latents



Les différences entre les profils se situent principalement sur les dimensions Stimulation intellectuelle, Soutien et Reconnaissance personnelle.

Le profil 1 regroupe 9 % de l'échantillon total (N : 18). Il montre les scores les plus élevés sur la dimension de la stimulation intellectuelle et légèrement plus élevés sur la dimension de soutien. Il est composé autant d'hommes que de femmes.

Le profil 2 représente 46.3 % de l'échantillon total (N : 93). Les dimensions de vision et communication inspirante sont plus élevées par rapport aux autres. Il est composé de 55 hommes et 38 femmes.

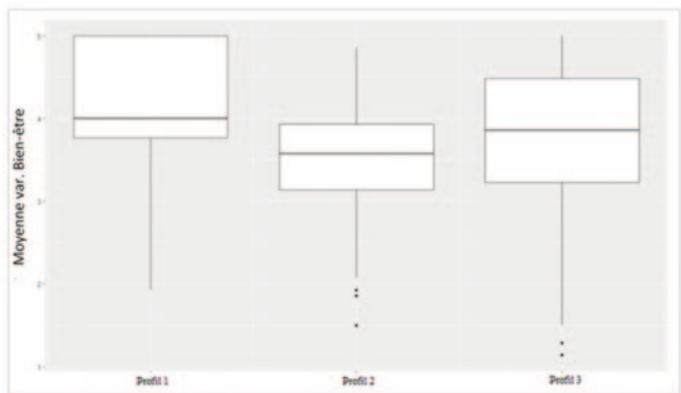
Le profil 3 représente 44.8 % de l'échantillon total (N : 90). Il montre des scores hauts sur les dimensions soutien et des scores les plus élevés sur la reconnaissance personnelle. Il est composé de 58 hommes et 32 femmes.

L'analyse de variance à un facteur

Nous avons observé un effet significatif de l'appartenance aux groupements de profils sur la perception de bien-être, $[F(2,198) = 6.321, p = .002]$. Le test de comparaison multiples (test de Tukey) indique que le score moyen de bien-être pour le profil 1 ($M = 4.17, ET = 0.85$) était significativement différent que celui du profil 2 ($M = 3.50, ET = 0.69$). Il n'y avait pas de différences significatives des scores moyens de bien-être entre les profils 1 et 3 ($M = 3.76, ET = 0.86$), ni entre les profils 2 et 3.

La figure 2 présente les niveaux de bien-être moyens selon l'appartenance aux profils et montre que le profil 1 présente un score moyen de bien-être plus élevé.

Figure 2
Bien-être selon l'appartenance aux trois profils



Discussion

L'objectif de cette étude était d'affiner la compréhension du leadership transformationnel au travers l'exploration de profils latents et les liens que chacun entretient avec la perception de bien-être. Cette méthode indique trois profils de leadership transformationnel : le profil 1 centré sur la stimulation intellectuelle, le profil 2 centré autour du leader et le profil 3 centré sur un leadership de soutien, orienté sur les besoins et reconnaissances de l'employé.

Retombées pratiques

Pour le profil 1, les résultats révèlent potentiellement une sous-utilisation de la dimension « stimulation intellectuelle » par les leaders en général. Nous pouvons faire l'hypothèse que cette dimension du leadership transformationnel est celle qui serait la moins investie par les leaders (dans un contexte où chacune des dimensions est positive) et pourrait être également celle qui serait le plus en lien avec le bien-être chez les employés comparativement aux autres dimensions. Rafferty et Griffin (2004) ont montré que cette dimension était associée à l'engagement affectif et l'engagement de continuité. Ainsi la prise en compte de cette dimension dans la formation des leaders et son évaluation serait pertinente pour vérifier cette hypothèse.

Le profil 2, révèle un leadership qui est centré autour du leader où les dimensions de la vision et la communication inspirante sont dominantes, montre les relations avec un niveau de bien-être plus bas par rapport aux autres profils. Une hypothèse plausible est que les dimensions vision et communication inspirante ne sont pas, à elles seules, suffisantes pour avoir un impact sur le bien-être des employés. A l'inverse,

les dimensions du leadership qui sont tournées vers l'interaction entre le leader et l'employé (stimulation intellectuelle, soutien et reconnaissance) semblent plus importantes pour favoriser le bien-être. Cette hypothèse va dans le sens de travaux qui soulignent d'un côté, l'importance des concepts de leadership orientés vers le relationnel où l'interaction entre le leader et ses employés sont au centre (Van Dierendonck, 2011) et d'autre qui mettent en garde contre les concepts de leadership trop centrés sur le leader lui-même et les conséquences néfastes qu'ils peuvent provoquer pour les employés et l'organisation (Jackson et Parry, 2011).

Retombées théoriques

Les critiques sur les théories du leadership transformationnel (Hutchinson et Jackson, 2013 ; Van Knippenberg et Sitkin, 2013) mettent en avant les problèmes sur la dimensionnalité de ce concept (multidimensionnel vs unidimensionnel). Les résultats de l'APL montrent qu'il y a peu de variance entre les profils au niveau des dimensions « vision » et « communication inspirante », ainsi il n'y a pas de groupements distincts de sous-échantillon pour ces deux mesures. Ces résultats vont dans le sens des problèmes de la mesure du leadership transformationnel composée par des variables trop fortement corrélées entre elles pour pouvoir distinguer les dimensions (Hutchinson et Jackson, 2013 ; Van Knippenberg et Sitkin, 2013). Ainsi ces deux dimensions pourraient ne pas être suffisamment distinctes. Cependant nos résultats de CFA indiquent que le modèle unidimensionnel n'est pas ajusté aux données mais aussi une présence de profils latents, ce qui va dans le sens d'un concept multidimensionnel tel que celui proposé par Rafferty et Griffin (2004).

Forces et limites de l'étude

Cette étude présente plusieurs avantages, sa plus grande force étant son caractère novateur pour étudier le leadership transformationnel. En effet, l'approche par profil peut être utilisée en complément de celle sur les variables afin de mettre en lumière des aspects non explorés et préciser les relations à prendre en compte pour une gestion organisationnelle qui favorise le bien-être des employés.

L'étude comporte des limites : il s'agit d'une première exploration du leadership transformationnel par le biais d'une approche centrée sur les personnes et de ce fait d'autres recherches sont nécessaires pour répliquer et approfondir les résultats de cette étude. De plus, le profil 1 ne représente qu'un pourcentage relativement faible de notre échantillon (9 %), dès lors

nous ne pouvons en tirer de conclusions généralisables à la population de travailleurs sur ce profil ou les deux autres.

Conclusion

Cette étude fournit une première exploration par profils latents du leadership transformationnel et le lien avec le bien-être. Les résultats indiquent l'existence de trois profils latents dans la notation du leadership transformationnel, dont le profil 1 centré sur la stimulation intellectuelle qui est associé à une perception de bien-être plus élevé que les autres profils. L'étude représente une contribution novatrice aux connaissances sur le leadership transformationnel et le bien-être au travail. D'autres études seront toutefois nécessaires afin d'affiner et élargir la mesure du leadership et son impact sur le bien-être des employés et la performance de l'organisation dans son ensemble.



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Annexe 1 - Modèle de leadership transformationnel de Rafferty et Griffin

Échelle de mesure du leadership transformationnelle selon le modèle de Rafferty et Griffin (2004)

Dimension	Items
1 Vision	1. Has a clear understanding of where we are going 2. Has a clear sense of where he/she wants our unit to be in 5 years 3. Has no idea where the organization is going (R)
2 Inspirational communication	4. Says things that make employees proud to be a part of this organization 5. Says positive things about the work unit 6. Encourages people to see changing environments as situations full of opportunities
3 Intellectual stimulation	7. Challenges me to think about old problems in new ways 8. Has ideas that have forced me to rethink some things that I have never questioned before 9. Has challenged me to rethink some of my basic assumptions about my work
4 Support	10. Considers my personal feelings before acting 11. Behaves in a manner which is thoughtful of my personal needs 12. Sees that the interests of employees are given due consideration
5 Personal recognition	13. Commends me when I do a better than average job 14. Acknowledges improvement in my quality of work 15. Personally compliments me when I do outstanding work

Cultivating Student Leadership

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Abstract

Psychologists are increasingly asked to take on leadership roles (McDaniel, 2016), yet leadership skill development is often overlooked and rarely explicitly included in psychology training programs. Leadership experience during graduate school can enhance the student experience and be an asset for future professional practice. As there is little research in this area, the present article aims to expand on recent recommendations for cultivating leadership (see Kois et al., 2016) by highlighting the experiences of two psychology graduate students who have experience leading a student association at McGill University. Seven recommendations are provided for psychology graduate students seeking to foster leadership development within their programs.

Leadership skills are important for a psychologists' professional competence, yet they are often overlooked as part of professional development (Gooding, Block, Brown, & Sunderaraman, 2018; Kois, King, LaDuke, & Cook, 2016). In the healthcare field, tasks that can be completed by individuals practicing with a master's degree are increasingly being shifted away from the responsibilities of doctoral-level psychologists (McDaniel, 2016). In this changing landscape, doctoral-level psychologists are increasingly called upon to act as supervisors, consultants, innovators, and evaluators. McDaniel (2016) argues that to prepare psychologists to take on such roles, graduate programs should offer leadership training. Indeed, many important assets for psychology practice such as professional identity development, communication skills, organizational skills, and networking experience can be developed through leadership activities (Kois et al., 2016).

While professional psychologists are often required to take on leadership roles in practice, psychology training programs rarely have explicit requirements for students to engage in leadership activities (Fassinger, Buki, & Shullman, 2017; Kois et al., 2016). This is a missed opportunity because psychology graduate programs create environments where the pursuit of knowledge and service to society are encouraged (Kois et al., 2016). Presently, there is very little empirical research on leadership skill development among psychology graduate students, despite it being identified as a core competency for psychologists by the American Psychological Association (Hewitt et al., 2017). In Canada, leadership is not explicitly identified as a competency needed for professional psychologists. However, several competencies related to leadership are identified as important, such as engaging in collaboration across professions, management skills, and advocacy (Rodolfa et al., 2013). The purpose of this article is to describe the development of a student association within a professional psychology program, and demonstrate how this association provides leadership development opportunities for graduate trainees. Additionally, this article provides seven

Résumé

On demande de plus en plus aux psychologues de jouer un rôle de leadership (McDaniel, 2016) bien que l'essentiel du contenu des programmes de formation dans le domaine de la psychologie ne tienne habituellement pas compte du développement des compétences en matière de leadership. Pour les étudiants qui poursuivent des études supérieures, l'acquisition de connaissances en matière de leadership peut contribuer positivement à leur expérience universitaire et s'avérer un atout dans la perspective d'avenir d'une pratique professionnelle. Puisqu'il y a peu de recherches sur le sujet, cet article cherche à donner suite aux récentes recommandations relatives à la culture du leadership chez les étudiants (voir Kois et collab., 2016) en rapportant les expériences de deux étudiants en psychologie de cycle supérieur qui ont pris la direction d'une association étudiante à l'Université McGill. Les étudiants de cycle supérieur en psychologie qui cherchent à développer leurs compétences en leadership dans le cadre de leur programme pourront s'inspirer des sept recommandations de l'article.



recommendations for graduate students who are seeking to develop a student association to enhance student leadership.

The School Psychology Student Association (SPSA)

Kois et al. (2016) identify several leadership opportunities typically available to psychology trainees including advising more junior students and serving on departmental or university committees. Graduate students enrolled at McGill University in the School/Applied Child Psychology (SACP) program can be involved in departmental committees (e.g., The Clinic Advisory Committee), a student-led conference (i.e., The Summer Institute for School Psychology), both faculty- and university-wide student associations (e.g., the Post-Graduate Student Society) and professional organizations (e.g., becoming a student affiliate with the Canadian Psychological Association).

Despite these opportunities, the SACP student body expressed a need to create a student association to address program-specific student needs. To this aim, several students in the SACP program at McGill University created the School Psychology Student Association (SPSA) through informal discussions between students in 2015. Initially, any student who was interested in participating was able to join the SPSA. Over time, roles and responsibilities were formally defined in a constitution and a system for elections was developed based on procedures used by similar student organizations within the university. The overarching goal of this association is to address student needs by providing a welcoming and supportive school environment for master's and doctoral students enrolled in the SACP program at McGill University. The specific goals of the association include:

- Create a supportive environment that offers a sense of community for students in the SACP program;
- Raise funds to offer opportunities for SACP students to engage in professional development, a hardship fund (e.g., to cover the costs of emergency travel for personal crises), and social events for students;
- Provide opportunities for students to establish connections via networking within the SACP program, the Department of Educational and Counselling Psychology, the Faculty of Education, the greater university, and communities in Montréal, Québec;
- Advocate for the professional, academic, financial, and social interests of students in the SACP program to both internal and external organizations; and

- Contribute to the promotion and improvement of the profession of school psychology through program, university, and community-wide events (e.g., discussion and dissemination of school psychology research at Journal Clubs)

Outcomes and Benefits of the SPSA. The SPSA appealed to students in the SACP program for several reasons. First, leadership development is led by peers within the SPSA. Doran, Galloway, Ponce, and Kaslow (2018) identified that peer mentorship is especially beneficial for leadership development because it is viewed as a more genuine and intimate experience, where individuals learn from more senior students who have undergone similar life experiences. Second, it did not require a large time commitment. Hewitt et al. (2017) identified time and other obligations as one of the barriers to leadership development as students often have demanding schedules. Finally, all SPSA meetings and activities take place locally. As such, members do not have to incur travel costs in order to participate in meetings or activities. Gooding et al. (2018) identified a lack of financial resources as one of the main limiting factors in professional organization involvement.

Since the inauguration, the SPSA has accomplished several goals. For example, organizing social events for students, starting a program-wide journal club, promoting school psychology awareness week (SPAW), which is an initiative promoted by the National Association of School Psychology (NASP), and creating a mentorship program between current students and recent graduates.

Seven Recommendations for Starting A Student Association

The first author was president of the SPSA from 2016-2019. The second author is the current president of the SPSA and has served on the Executive Committee in various roles since 2017. Over the past several years, we have learned many lessons that may help current students who are seeking to create their own student leadership opportunities within their program. Kois et al. (2016) provide a list of 18 recommendations for developing student leadership. Below, we provide a list of seven recommendations based on our own experiences including a discussion of where they align with the recommendations provided by Kois et al. (2016).

Clarify Goals at the Outset. We recommend outlining the goals of your student association at inception. The SPSA established clear goals based on the needs

identified by SACP students. Clear objectives for each goal were further developed through informal surveys and discussions with the student body (e.g., at town hall meetings, through social media) and discussions amongst SPSA executive committee members. One to two goals were given priority each semester and feedback from the student body was sought to ensure goals were met (see recommendation number four). By having clear goals, we created well-defined opportunities for involvement which enabled us to address student service (Kois et al., 2016). Clearly articulating goals in the beginning will help guide planned activities (McDaniel, 2016). In order to develop a clear list of goals that are both relevant and feasible, it is helpful to recruit members who can speak to the current needs of students within the program and members who are interested in creating innovative solutions to meet student needs.

Secure Financial Resources. The more funding you have, the more you will be able to accomplish in terms of hosting events or offering professional development opportunities. We have had success with bake sales, bingo nights, and raffles. We have also found many small organizations within the university that offer financial support for student groups and student-led initiatives. We have received funding from our faculty-level student government, the university alumni association, the Canadian Psychological Association Student Initiative Grant, and a university-wide fund supporting student mental health. We began by establishing a specific role, vice president of finance, who was responsible for organizing fundraising events and applying to funding opportunities. Each year, we documented how much money was raised through each avenue and over time we learned where to focus our efforts. Kois et al. (2016) argue that by seeking funding for student initiatives, students learn to become “self-supporting in their service and advocacy efforts” (p. 33) and gain skills in budgeting and managing finite funds.

Secure Physical Resources. Kois et al. (2016) recommend reserving space for programs developed by student leaders. While the SPSA did not have reserved space, we were able to function well using the resources our department has available such as classrooms, meeting rooms, and student spaces. We recommend becoming informed on the procedures to book space on your campus. We were also able to use spaces from other student organizations at the faculty level.

Integrate Student Feedback. We recommend being open to suggestions from the student body and regularly seeking feedback on your initiatives. This is in line with Kois et al. (2016) who argue that by assessing their activities, students will learn to monitor their effectiveness as leaders. In our experience, this is a critical part of student leadership because our ultimate goal is to serve the students in our program and advocate for their needs. That being said, student goals and needs may not always be in line with the department or university, so it is crucial to check in with the student body on a regular basis. We sought student feedback through surveys at events and an interactive bulletin board where students could vote on SPSA priorities.

Collaborate with Other Organizations. Reaching out to other organizations can facilitate professional collaborations (Kois et al., 2016). In our experience, connecting with other organizations can bring more information and opportunities to your program. For example, the SPSA recently joined the Interuniversity Federation of Doctoral Students in Psychology. By connecting with this organization, we were able to provide our students with up-to-date information on remuneration negotiations for students completing their predoctoral internships.

Consider Legacy in Leadership. Kois et al. (2016) recommend that student leaders actively recruit students for future positions to gain the perspective of legacy leadership and foster continuity of high-quality student engagement. To recruit future SPSA members, we have given presentations about the SPSA to new students and invited interested students to attend SPSA meetings as a trial. To recruit junior SPSA members for more senior positions (e.g., President) we have invited interested individuals to take the lead on planning an initiative/event or lead an SPSA meeting. To facilitate the transition between committees, we have scheduled elections to take place midway through the winter term, allowing ample time for the outgoing and incoming members to meet and transfer information. Transferring institutional knowledge has also been a challenge within the SPSA. From year to year, it is easy to forget what has been accomplished and what lessons have been learned, as there is a turnover of students progressing through the program. One of our most important lessons learned has been to document everything in writing. We have, for example, written a constitution articulating our goals and the responsibilities for each position. We have also documented how to run elections, summarized the goals and activities we have accomplished each term, and remained up to date with meeting minutes.

Enjoy the Experience and Have Fun! We would like to conclude by encouraging students to get involved with leadership opportunities and enjoy the experience! Even if you are the first person in your program to start an initiative, do not be afraid. As Gooding et al. (2018) indicate, it may be initially intimidating to seek out leadership opportunities, but even seemingly trivial roles can provide valuable experience and networking opportunities. It has been our experience that starting the SPSA has brought a valuable sense of community to our program. Kois et al. (2016) suggest that when students foster a community they learn to reach out to their peers for assistance and support, just as professionals do in practice.



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PSYCHOLOGY IN CANADA DURING COVID-19

As the impact of COVID-19 is being felt worldwide, we recognize the pressure this evolving crisis is placing on practitioners, researchers, educators, students, employers, families and the public throughout Canada.

On behalf of the CPA, we extend our gratitude for the leadership roles so many are playing in their communities and applaud their efforts to address the needs of their colleagues, students and patients. To support these efforts, and to inform the public, we have compiled and created a variety of resources. In addition, we are working with our partners and other associations to advocate for, not only our members but, members of the Canadian public.

Compiled and Created Resources Include:

- ▶ **Webinars, Videos and Daily Audio Updates** covering issues like—Setting Up Your Practice for Online Therapy, Telepsychology and Business Interruption Insurance, and The Future of Psychology in Canada Post COVID-19, and more.
- 📅 **Fact Sheets**, on a variety of topics including—The Psychological Impact of the Coronavirus, Psychological Practice and the Coronavirus, Working from Home During COVID-19 with or without children, Helping Teens Cope with the Impacts and Restrictions of COVID-19, Supporting Student Wellness During COVID-19.
- 💻 Information on the **CPA's Pro-Bono Referral Program to Support Frontline Workers**—how to sign-up as a frontline health care provider or donate your time as a psychology professional.
- 👉 **Resources Links** from partners and organizations like—the Mental Health Commission of Canada, the Ontario Ministry of Health, the World Health Organization and John Hopkins University.
- 💻 **Privacy, Practice, and Insurance Related Articles and Resources** from BMS Insurance regarding Virtual Care, Protecting Privacy in a Pandemic and Returning to Practice.
- 👤 **Press Releases**
- 📄 **Messaging to our Membership**

We can see the medical and physical impact COVID-19 is having around the world, but the full extent of the psychological impact is not yet known. The discipline and profession have much to contribute.

Thank you to all for your efforts.

Be well and stay safe.

Any questions or concerns, please contact executiveoffice@cpa.ca.



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- To promote the advancement, development, dissemination, and application of psychological knowledge; and
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